AVU-G-09-06

RECEIVED
2009 DEC 30 AM 9:54
IDAHO PUBLIC
UTILITIES COMMISSION

2009

Natural Gas Integrated Resource Plan Appendices



December 31, 2009

www.avistautilities.com

AVISTA

AVISTA CORPORATION

RECEIVED
2009 DEC 30 AM 9:54
IDAHO PUBLIC
UTILITIES COMMISSION

2009 NATURAL GAS INTEGRATED RESOURCE PLAN APPENDICIES

TABLE OF CONTENTS

Appendix 1.1 TAC Members ..... Page 1
Appendix 1.2 Work Plan 5
Appendix 2.1 IRP Regulatory Guidelines 11
Appendix 2.2 Comments & Responses to 2009 DRAFT IRP 29
Appendix 3.1 Customer Forecasts 45
Appendix 3.2 Customer Forecasts Data 57
Appendix 3.3 Demand Coefficients 71
Appendix 3.4 Heating Degree Day (HDD) Data 85
Appendix 3.5 Global Warming Summary and Graphs 91
Appendix 3.6 Alternate Demand Scenarios Summary of Assumptions 107
Appendix 3.7 Alternate Demand Scenarios Descriptions 113
Appendix 3.8 Annual and Peak Day Demand Data 123
Appendix 3.9 Annual Demand by Region Before and After DSM 131
Appendix 3.10 Detail Demand Data 141
Appendix 4.1 DSM Implementation and Operations 159
Appendix 4.2 Conservation Measures Detail 171
Appendix 4.3 SENDOUT® selected Conservation Measures 179
Appendix 4.4 Environmental Externalities 223
Appendix 5.1 Current Transportation Rates 229

Appendix 5.2 Alternate Supply Scenarios Summary of Assumptions 233

Appendix 6.1 Monthly Price Data 237

Appendix 6.2 General Assumptions 251

Appendix 6.3 Supply Side Resource Options 259

Appendix 6.4 Avoided Cost Detail 265

Appendix 6.5 SENDOUT® Model Diagram 283

Appendix 7.1 Sensitivities, Scenarios, Simulations and Portfolios List 287

Appendix 7.2 Demand and Expected Resource Graphs 291

Appendix 7.3 Peak Day Demand Served and Unserved Table 299

Appendix 7.4 Load Duration Curve Graphs (High and Low Growth Cases) ..... .307

Appendix 7.5 Total Cost By Portfolio 311

Appendix 8.1 Distribution System Modeling 319

APPENDIX 1.1

TAC MEMBERS

Appendix 1.1
2009 IRP TAC Member List

Name	Organization
Bob Jenks	Oregon CUB
Bruce Folsom	Avista
Carrie Dolwick	NW Energy
Chau Lau	Cascade Natural Gas Company
Dan Kirschner	Northwest Gas Association
Dave Allred	Northwest Pipeline
Dave Sloan	Gas Transmission Northwest
David Nightingale	WUTC
Deborah Reynolds	WUTC
Greg Rahn	Avista
Gurvinder Singh	Puget Sound Energy
Inara Scott	Northwest Natural
Joe Ross	Gas Transmission Northwest
Jon Powell	Avista
Kelly Irvine	Avista
Ken Ross	Terasen Gas
Kerry Shroy	Avista
Ken Zimmerman	OPUC
Kevin Christie	Avista
Lea Daischel	Washington Attorney General's Office
Linda Gervais	Avista
Lisa Gorsuch	OPUC
Lori Hermanson	Avista
Lynn Kittilson	OPUC
Mark Sellers-Vaughn	Cascade Natural Gas Company
Matt Elam	IPUC
Megan Clark	Northwest Gas Association
Paula Pyron	Northwest Industrial Gas Users
Randy Barcus	Avista
Rich Cowan	Gas Transmission Northwest
Steven Johnson	WUTC
Steven Simmons	Northwest Natural
Terrence Browne	Avista
Terri Carlock	IPUC
Terry Morlan	Northwest Power and Conservation Coucil
Vonda Novak	WUTC

APPENDIX 1.2

WORK PLAN

Avista Corporation 2009 Natural Gas Integrated Resource Plan Work Plan

IRP Work Plan Requirements

Section 480-90-238 (4), of the natural gas Integrated Resource Plan ("IRP") rules, specify requirements for the IRP Work Plan:

> Not later than twelve months prior to the due date of a plan, the utility must provide a work plan for informal commission review. The work plan must outline the content of the integrated resource plan to be developed by the utility and the method for assessing potential resources.

Additionally, Section 480-90-238 (5) of the WAC states:

The work plan must outline the timing and extent of public participation.

Overview

This Work Plan outlines the process Avista will follow to complete its 2009 Natural Gas IRP by December 31, 2009. Avista uses a public process to obtain technical expertise and guidance throughout the planning period via Technical Advisory Committee (TAC) meetings. The TAC provided input into this work plan and will be providing input into assumptions, scenarios, and modeling techniques.

Process

The 2009 IRP process will be similar to that used to produce the previously published plan. Avista will use SENDOUT® (a PC based linear programming model widely used to solve natural gas supply and transportation optimization questions) to develop the risk adjusted least-cost resource mix for the 20 year planning period.

For this plan, Avista intends to incorporate action plan items identified in the 2007 Natural Gas IRP including regional demand modeling, weather standard evaluation, Canadian natural gas imports monitoring, and analyze (using SENDOUT® and VectorGas™) realistic alternative situations in which the company may have to operate during the next 20 years. VectorGas™ is the Monte Carlo risk assessment element of SENDOUT® which evaluates the cost and reliability impact of market price and demand volatility.

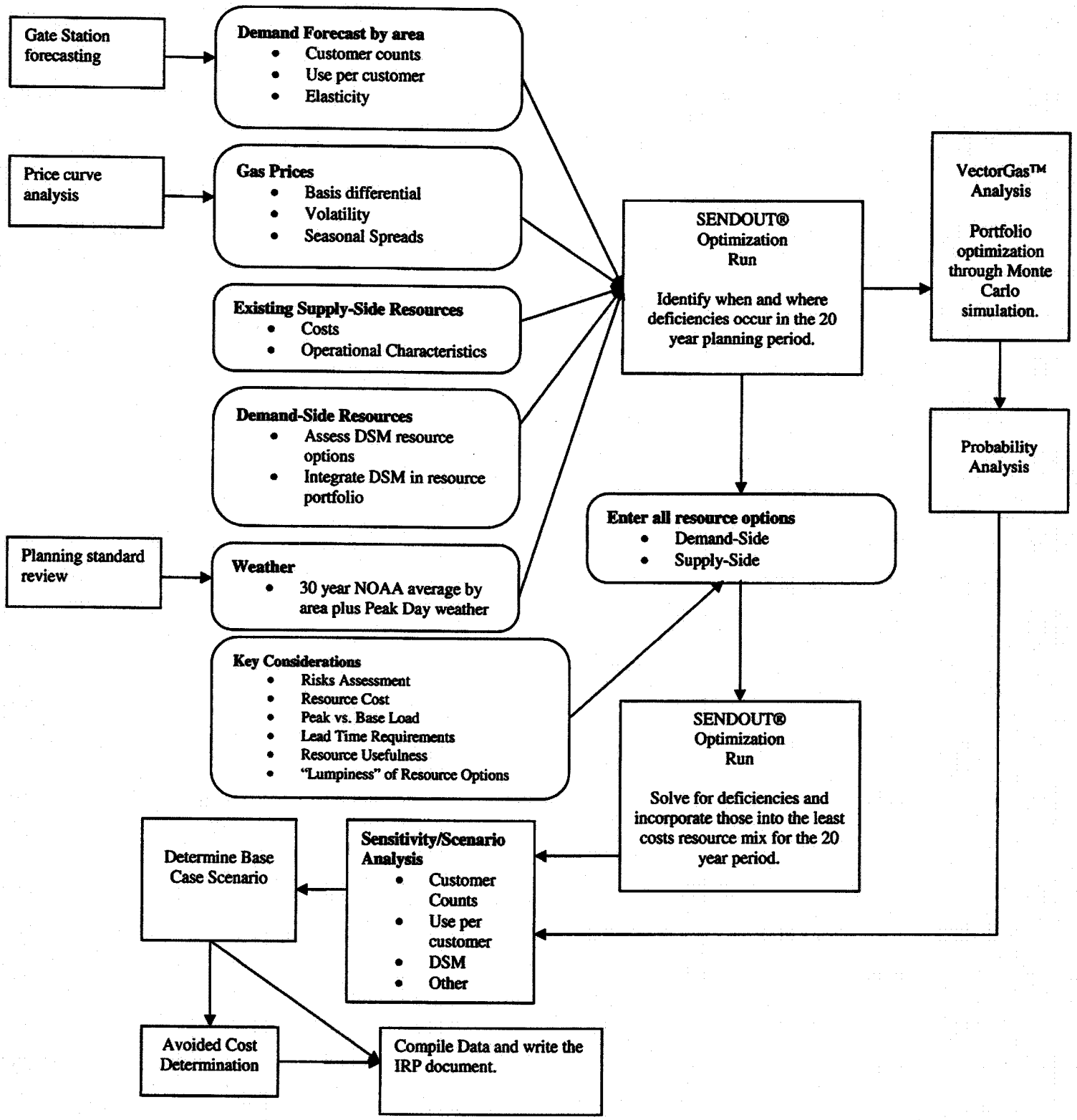
This plan will continue to include demand analysis, detailed demand side management program analysis and avoided cost determination, distribution planning, existing and potential supply-side resource analysis and resource integration. Further details about Avista's process for determining the risk adjusted least-cost resource mix is shown in Exhibit 1.

Timeline

The following is Avista's TENTATIVE 2009 Natural Gas IRP timeline:

- **December 29, 2008** – Work Plan filed with WUTC
- **April through July 2009** – Technical Advisory Committee meetings (exact meeting dates ***subject to change***). Meeting topics will include:
  - Demand Forecast & Demand-Side Management – April 28
  - Distribution Planning & Supply/Infrastructure – May 19
  - SENDOUT® Preliminary Output Results and Potential Case Discussion – June 16
  - SENDOUT® and VectorGas™ results – July 16
- **September 1, 2009** – Draft of IRP document to TAC
- **October 30, 2009** – Comments on draft due back to Avista
- **November 6, 2009** – TAC final review meeting (if necessary)
- **December 31, 2009** – File finalized IRP document

Exhibit 1: Avista's 2009 Natural Gas IRP Modeling Process



APPENDIX 2.1

IRP REGULATORY GUIDELINES

Appendix 2.1 IDAHO Public Utility Commission IRP Policies and Guidelines - ORDER NO. 25342

REF #	DESCRIPTION OF REQUIREMENT	FULLFILLMENT OF REQUIREMENT
1	Purpose and Process. Each gas utility regulated by the Idaho Public Utilities Commission with retail sales of more than 10,000,000,000 cubic feet in a calendar year (except gas utilities doing business in Idaho that are regulated by contract with a regulatory commission of another State) has the responsibility to meet system demand at least cost to the utility and its ratepayers. Therefore, an "integrated resource plan" shall be developed by each gas utility subject to this rule.	Avista prepares a comprehensive 20 year Integrated Resource Plan every two years. Avista will be filing its 2009 IRP on or before December 31, 2009.
2	Definition. Integrated resource planning. "Integrated resource planning" means planning by the use of any standard, regulation, practice, or policy to undertake a systematic comparison between demand-side management measures and the supply of gas by a gas utility to minimize life-cycle costs of adequate and reliable utility services to gas customers. Integrated resource planning shall take into account necessary features for system operation such as diversity, reliability, dispatchability, and other factors of risk and shall treat demand and supply to gas consumers on a consistent and integrated basis.	Avista's IRP brings together dynamic demand forecasts and matches them against demand-side and supply-side resources in order to evaluate the least cost/best risk portfoio for its core customers.
3	Elements of Plan. Each gas utility shall submit to the Commission on a biennial basis an integrated resource plan that shall include:	2009 IRP to be filed on or before Dec 31, 2009 within 2 years of our 2007 IRP filing.
a.	A range of forecasts of future gas demand in firm and interruptible markets for each customer class for one, five, and twenty years using methods that examine the effect of economic forces on the consumption of gas and that address changes in the number, type and e-fficiency of gas end-uses.	See **Chapter 3 - Demand Forecasts** and **Appendix 2.1 et. al.** for a detailed discussion of how demand was forecasted for this IRP.
b.	An assessment for each customer class of the technically feasible improvements in the efficient use of gas, including load management, as well as the policies and programs needed to obtain the efficiency improvements.	See **Chapter 4 - Demand Side Management** and **DSM Appendicies 4.1 et.al.** for detailed information on the DSM measures evaluated and selected for this IRP and the implementation process.

Appendix 2.1 IDAHO Public Utility Commission IRP Policies and Guidelines - ORDER NO. 25342

REF #	DESCRIPTION OF REQUIREMENT	FULLFILLMENT OF REQUIREMENT
c.	An analysis for each customer class of gas supply options, including: (1) a projection of spot market versus long-term purchases for both firm and interruptible markets; (2) an evaluation of the opportunities for using company-owned or contracted storage or production; (3) an analysis of prospects for company participation in a gas futures market; and (4) an assessment of opportunities for access to multiple pipeline suppliers or direct purchases from producers.	See **Chapter 5 - Supply-Side Resources** for details about the market, storage, and pipeline transportation as well as other resource options considered in this IRP. See also the procurement plan section in this same chapter for supply procurement strategies.
d.	A comparative evaluation of gas purchasing options and improvements in the efficient use of gas based on a consistent method for calculating cost-effectiveness.	See Methodology section of **Chapter 4 - Demand-Side Resources** where we describe our process on how demand-side and supply-side resources are compared on par with each other in the SENDOUT® model.
e.	The integration of the demand forecast and resource evaluations into a long-range (e.g., twenty-year) integrated resource plan describing the strategies designed to meet current and future needs at the lowest cost to the utility and its ratepayers.	See **Chapter 6 - Integrated Resource Portfolio** for details on how we model demand and supply coming together to provide the least cost/best risk portfolio of resources.
f.	A short-term (e.g., two-year) plan outlining the specific actions to be taken by the utility in implementing the integrated resource plan.	See **Chapter 8 - Action Plan** for actions to be taken in implementing the IRP.
4	Relationship Between Plans. All plans following the initial integrated resource plan shall include a progress report that relates the new plan to the previously filed plan.	Avista strives to meet at least quarterly with Staff and/or Commisioners to discuss the state of the market, procurement planning practices, and any other issues that may impact resource needs or other analysis within the IRP.
5	Plans to Be Considered in Rate Cases. The integrated resource plan will be considered with other available information to evaluate the performance of the utility in rate proceedings before the Commission.	We prepare and file our plan in part to establish a public record of our plan.
6	Public Participation. In formulating its plan, the gas utility must provide an opportunity for public participation and comment and must provide methods that will be available to the public of validating predicted performance.	Avista held four Technical Advisory Committee meetings beginning in April and ending in August. See **Chapter 1 - Introduction** for more detail about public participation in the IRP process.

Appendix 2.1 IDAHO Public Utility Commission IRP Policies and Guidelines - ORDER NO. 25342

REF #	DESCRIPTION OF REQUIREMENT	FULLFILLMENT OF REQUIREMENT
7	Legal Effect of Plan. The plan constitutes the base line against which the utility's performance will ordinarily be measured. The requirement for implementation of a plan does not mean that the plan must be followed without deviation. The requirement of implementation of a plan means that a gas utility, having made an integrated resource plan to provide adequate and reliable service to its gas customers at the lowest system cost, may and should deviate from that plan when presented with responsible, reliable opportunities to further lower its planned system cost not anticipated or identified in existing or earlier plans and not undermining the utility's reliability. In order to encourage prudent planning and prudent deviation from past planning when presented with opportunities for improving upon a plan, a gas utility's plan must be on file with the Commission and available for public inspection. But the filing of a plan does not constitute approval or disa-pproval of the plan having the force and effect of law, and deviation from the plan would not constitute violation of the Commission's Orders or rules. The prudence of a utility's plan and the utility's prudence in following or not following a plan are matters that may be considered in a general rate proceeding or other proce-edings in which those issues have been noticed.	See section titled "Avista's Procurement Plan" in **Chapter 5 - Supply-Side Resources**. Among other details we discuss plan revisions in response to changing market conditions. See also section titled "Alternate Supply-Side Scenarios" in **Chapter 6 - Integrated Resource Portfolio** where we discuss different supply portfolios that are resonsive to changing assumptions about resource alternatives.

Appendix 2.1 Oregon Public Utility Commission IRP Standard and Guidelines – Order 07- 002

Guideline Number	Description of Requirement	Fulfillment of Requirement
Guideline 1: Substantive Requirements		
1.a.1	All resources must be evaluated on a consistent and comparable basis.	All resource options including demand-side and supply-side are modeled in SENDOUT® utilizing the same common general assumptions, approach and methodology.
1.a.2	All known resources for meeting the utility's load should be considered, including supply-side options which focus on the generation, purchase and transmission of power – or gas purchases, transportation, and storage – and demand-side options which focus on conservation and demand response.	Avista considered a range of resources including demand-side management, distribution system enhancements, interstate pipeline transportation, transport backhauls, and storage options including liquefied natural gas. Chapter 4 and Appendix 4.3 documents Avista's demand-side management resources considered. Chapter 5 and Appendix 6.3 documents supply-side resources. Chapter 6 documents how Avista developed and assessed each of these resources.
1.a.3	Utilities should compare different resource fuel types, technologies, lead times, in-service dates, durations and locations in portfolio risk modeling.	Avista considered various combinations of technologies, lead times, in-service dates, durations, and locations. Chapter 6 provides details about the modeling methodology and results. Chapter 5 describes resource attributes and Appendix 6.3 summarizes the resources' lead times, in-service dates and locations.
1.a.4	Consistent assumptions and methods should be used for evaluation of all resources.	Appendix 6.2 documents general assumptions used in Avista's SENDOUT® modeling software. All portfolio resources both demand and supply-side were evaluated within SENDOUT® using the same sets of inputs.
1.a.5	The after-tax marginal weighted-average cost of capital (WACC) should be used to discount all future resource costs.	Avista applied its after-tax WACC of 4.18% to discount all future resource costs. (See general assumptions at Appendix 6.2)
1.b.1	Risk and uncertainty must be considered. Electric utilities only	Not Applicable
1.b.2	Risk and uncertainty must be considered. Natural gas utilities should consider demand (peak, swing and base-load), commodity supply and price, transportation availability and price, and costs to comply with any regulation of greenhouse gas (GHG) emissions.	After considering the influencers on demand, Avista performed 15 sensitivities on demand. From there nine demand scenarios were developed (Table 1.1) for SENDOUT® modeling purposes. Monthly demand coefficients were developed for base, heating demand (Appendix 3.3) while peak demand was contemplated through modeling a weather planning standard of the coldest day on record (see heating degree day data in Appendix 3.4). Avista evaluated several price forecasts (Figure 6.3) and selected high, medium and low price scenarios for modeling purposes (Figures 6.4 & 6.5).

Guideline Number	Description of Requirement	Fulfillment of Requirement
		An updated price forecast was also analyzed as it incorporated more current market conditions. This forecast became our expected case forecast and is also shown in Figures 6.4 & 6.5. Four supply scenarios were also evaluated, see Table 5.3. These supply scenarios were combined with demand scenarios in order to establish portfolios for evaluation. Ultimately 13 portfolios were evaluated. Avista also ran Monte Carlo simulations using VectorGas™ for price and weather variables to analyze demand sensitivity to weather and to quantify the risk to customers under varying price environments. Avista considered GHG emissions regulatory compliance costs in Appendix 4.2 .
	Utilities should identify in their plans any additional sources of risk and uncertainty.	Avista evaluated additional risks and uncertainties. Risks associated with the planning environment are detailed in Chapter 1 Introduction. Avista also analyzed demand risk which is detailed in Chapter 3. Chapter 4 discusses the uncertainty around how much DSM is achievable. Supply-side resource risks are discussed in Chapter 5. Chapter 6 discusses the variables modeled for scenario and stochastic risk analysis.
1c	The primary goal must be the selection of a portfolio of resources with the best combination of expected costs and associated risks and uncertainties for the utility and its customers.	Avista evaluated cost/risk tradeoffs for each of the risk analysis portfolios considered. See Chapter 6 and supporting information at Appendix 6.8 for Avista's portfolio risk analysis and determination of the preferred portfolio.
	The planning horizon for analyzing resource choices should be at least 20 years and account for end effects. Utilities should consider all costs with a reasonable likelihood of being included in rates over the long term, which extends beyond the planning horizon and the life of the resource.	Avista used a 20-year study period for portfolio modeling. Avista contemplated possible costs beyond the planning period that could affect rates including end effects such as infrastructure decommission costs and concluded there were no significant costs reasonably likely to impact rates under different resource selection scenarios.
	Utilities should use present value of revenue requirement (PVRR) as the key cost metric. The plan should include analysis of current and estimated future costs of all long-lived resources such as power plants, gas storage facilities and pipelines, as well as all short-lived resources such as gas supply and short-term power purchases.	Avista's SENDOUT® modeling software utilizes a PVRR cost metric methodology applied to both long and short-lived resources.

Guideline Number	Description of Requirement	Fulfillment of Requirement
	To address risk, the plan should include at a minimum: 1) Two measures of PVRR risk: one that measures the variability of costs and one that measures the severity of bad outcomes. 2) Discussion of the proposed use and impact on costs and risks of physical and financial hedging.	Avista, through its VectorGas™ software, modeled 200 scenarios around varying gas price inputs via Monte Carlo iterations developing a distribution of Total 20 year cost estimates utilizing SENDOUT®'s PVRR methodology. Chapter 6 further describes this analysis while Figure 6.35 summarizes this analysis graphically. The variability of costs is plotted against the Expected Case while the scenarios beyond the 95th percentile capture the severity of bad outcomes. Chapter 5 discusses Avista's physical and financial hedging methodology.
	The utility should explain in its plan how its resource choices appropriately balance cost and risk.	Chapter 6 Regulatory Requirements section summarizes the results of Avista's cost/risk tradeoff analysis considered throughout the IRP process. Chapter 5 and 6 describe various specific resource considerations and related risks, and describes what criteria we used to determine what resource combinations provide an appropriate balance between cost and risk.
1d	The plan must be consistent with the long-run public interest as expressed in Oregon and federal energy policies.	Avista considered current and expected state and federal energy policies in portfolio modeling. Chapter 6 describes the decision process used to derive portfolios, which includes consideration of state resource policy directions.
Guideline 2: Procedural Requirements		
2a	The public, including other utilities, should be allowed significant involvement in the preparation of the IRP. Involvement includes opportunities to contribute information and ideas, as well as to receive information. Parties must have an opportunity to make relevant inquiries of the utility formulating the plan.	Chapter 1 provides an overview of the public process and documents the details on public meetings held for the 2009 IRP.
	While confidential information must be protected, the utility should make public, in its plan, any non-confidential information that is relevant to its resource evaluation and action plan.	The entire IRP, as well as the TAC process, includes all of the non-confidential information the company used for portfolio evaluation and selection. Avista also provided stakeholders with non-confidential information to support public meeting discussions via email. The draft plan and subsequent TAC meeting presentations were also made available on Avista's website for public viewing during this period.
	The utility must provide a draft IRP for public review and comment prior to filing a final plan with the Commission.	Avista distributed a draft IRP document for external review to TAC members on September 4, 2009 and requested comments by October 15, 2009. The draft plan was also made available on Avista's website for public viewing during this period.

Guideline Number	Description of Requirement	Fulfillment of Requirement
Guideline 3: Plan Filing, Review and Updates		
3a	Utility must file an IRP within two years of its previous IRP acknowledgement order.	This Plan complies with this requirement as the 2007 Natural Gas IRP was acknowledged on 6/02/2008.
3b	Utility must present the results of its filed plan to the Commission at a public meeting prior to the deadline for written public comment.	Avista will work with Staff to fulfill this guideline following filing of the IRP.
3c - g	These guides discuss Commission comments and acknowledgement and the IRP annual update.	Not applicable.
Guideline 4: Plan Components		
	At a minimum, the plan must include the following elements:	
4a	An explanation of how the utility met each of the substantive and procedural requirements.	This table summarizes guideline compliance by providing an overview of how Avista met each of the substantive and procedural requirements for a natural gas IRP.
4b	Analysis of high and low load growth scenarios in addition to stochastic load risk analysis with an explanation of major assumptions.	Avista developed nine demand growth forecasts for scenario analysis. Stochastic variability of demand was also captured in the risk analysis. Chapter 2 describes the demand forecast data and Chapter 6 provides the scenario and risk analysis results. Appendix 6.2 details major assumptions.
4c	For electric utilities only	Not Applicable
4d	A determination of the peaking, swing and base-load gas supply and associated transportation and storage expected for each year of the plan, given existing resources; and identification of gas supplies (peak, swing and base-load), transportation and storage needed to bridge the gap between expected loads and resources.	Figures 1.11 and 1.12 summarize graphically projected annual peak day demand and the existing and selected resources by year to meet demand for the expected case. Appendix 6.6 summarizes the high, low, and other demand scenarios.
4e	Identification and estimated costs of all supply-side and demand-side resource options, taking into account anticipated advances in technology	Chapter 4 and Appendix 4.3 identify the demand-side resources included in this IRP. Chapter 5 and 6 and Appendix 6.3 identify the supply-side resources.
4f	Analysis of measures the utility intends to take to provide reliable service, including cost-risk tradeoffs.	Chapter 7 discusses the modeling tools, customer growth forecasting and cost-risk considerations used to maintain and plan a reliable gas delivery system. The Chapter also captures a summary of the reliability analysis process demonstrated at the second TAC meeting. Chapter 5 discusses the diversified infrastructure and multiple supply basin approach that acts to mitigate certain reliability risks.

Guideline Number	Description of Requirement	Fulfillment of Requirement
4g	Identification of key assumptions about the future (e.g. fuel prices and environmental compliance costs) and alternative scenarios considered.	Appendix 6.2 and Chapter 6 describe the key assumptions and alternative scenarios used in this IRP.
4h	Construction of a representative set of resource portfolios to test various operating characteristics, resource types, fuels and sources, technologies, lead times, in-service dates, durations and general locations - system-wide or delivered to a specific portion of the system.	This Plan documents the development and results for portfolios evaluated in this IRP (see Table 5.3 for supply scenarios considered).
4i	Evaluation of the performance of the candidate portfolios over the range of identified risks and uncertainties.	We evaluated our candidate portfolio by performing stochastic analysis using VectorGas™ varying price under 200 different scenarios. Additionally, we test the portfolio of options with the use of SENDOUT® under deterministic scenarios where demand and price vary. For resources selected, we assess other risk factors such as varying lead times required and potential for cost overruns outside of the amounts included in the modeling assumptions.
4j	Results of testing and rank ordering of the portfolios by cost and risk metric, and interpretation of those results	Avista's four distinct geographic Oregon service territories limit many resource option synergies which inherently reduces available portfolio options. Feasibility uncertainty, lead time variability and uncertain cost escalation around certain resource options also reduce reasonably viable options. Chapter 5 describes resource options reviewed including discussion on uncertainties in lead times and costs as well as viability and resource availability (e.g. LNG). Appendix 6.3 summarizes the potential resource options identifying investment and variable costs, asset availability and lead time requirements while results of resources selected are identified in Table 6.5 as well as graphically presented in Figure 6.17 and 6.18 for the expect case and Appendix 6.8 for High and Low demand cases. (Alternate scenarios are in Appendix 6.5)
4k	Analysis of the uncertainties associated with each portfolio evaluated	See the responses to 1.b above.
4l	Selection of a portfolio that represents the best combination of cost and risk for the utility and its customers	Avista evaluated cost/risk tradeoffs for each of the risk analysis portfolios considered. Chapter 6 shows the company's portfolio risk analysis, as well as the process and determination of the preferred portfolio.
4m	Identification and explanation of any inconsistencies of the selected portfolio with any state and federal energy policies that may affect a utility's plan and any barriers to implementation	This IRP is presumed to have no inconsistencies.

Guideline Number	Description of Requirement	Fulfillment of Requirement
4n	An action plan with resource activities the utility intends to undertake over the next two to four years to acquire the identified resources, regardless of whether the activity was acknowledged in a previous IRP, with the key attributes of each resource specified as in portfolio testing.	Chapter 8 presents the IRP Action Plan with focus on the following areas: • Modeling • Supply/capacity • Forecasting • Regulatory communication • DSM Goals
Guideline 5: Transmission		
5	Portfolio analysis should include costs to the utility for the fuel transportation and electric transmission required for each resource being considered. In addition, utilities should consider fuel transportation and electric transmission facilities as resource options, taking into account their value for making additional purchases and sales, accessing less costly resources in remote locations, acquiring alternative fuel supplies, and improving reliability.	Not applicable to Avista's gas utility operations.
Guideline 6: Conservation		
6a	Each utility should ensure that a conservation potential study is conducted periodically for its entire service territory.	Our last third party conservation potential study was in 2005. We expect to conduct a new study prior to our 2011 IRP. Avista incorporates a comprehensive assessment of the potential for utility acquisition of energy-efficiency resources into the regularly-scheduled Integrated Resource Planning process. The assessment that occurred within this IRP process began with over 300 conceptual measures and applications. This is in addition to the site-specific program coverage of any cost-effective non-residential measure.
6b	To the extent that a utility controls the level of funding for conservation programs in its service territory, the utility should include in its action plan all best cost/risk portfolio conservation resources for meeting projected resource needs, specifying annual savings targets.	In Avista's Action Plan in Chapter 8 we include our conservation programs annual savings targets and reference to Chapter 4 and Appendix 4.1 for the program's specific details. A discussion on the treatment of conservation programs is included in Chapter 4 while selection methodology is documented in Chapter 6.
6c	To the extent that an outside party administers	Not applicable. See the response for 6.b above.

Guideline Number	Description of Requirement	Fulfillment of Requirement
	conservation programs in a utility's service territory at a level of funding that is beyond the utility's control, the utility should: 1) determine the amount of conservation resources in the best cost/ risk portfolio without regard to any limits on funding of conservation programs; and 2) identify the preferred portfolio and action plan consistent with the outside party's projection of conservation acquisition.	
Guideline 7: Demand Response		
7	Plans should evaluate demand response resources, including voluntary rate programs, on par with other options for meeting energy, capacity, and transmission needs (for electric utilities) or gas supply and transportation needs (for natural gas utilities).	Avista has periodically evaluated conceptual approaches to meeting capacity constraints using demand-response and similar voluntary programs. Technology, customer characteristics and cost issues are hurdles for developing effective programs. See chapter 4 Demand Response section for more discussion.
Guideline 8: Environmental Costs		
8	Utilities should include, in their base-case analyses, the regulatory compliance costs they expect for CO2, NOx, SO2, and Hg emissions. Utilities should analyze the range of potential CO2 regulatory costs in Order No. 93-695, from $0 - $40 (1990$). In addition, utilities should perform sensitivity analysis on a range of reasonably possible cost adders for NOx, SO2, and Hg, if applicable.	Avista's current direct gas distribution system infrastructure does not result in any CO2, NOx, SO2, or Hg emissions. Upstream gas system infrastructure (pipelines, storage facilities, and gathering systems) do produce CO2 emissions via compressors used to pressurize and move gas throughout the system. The Environmental Externalities discussion in Appendix 4.2 describes our analysis performed. See also the guidelines addendum reflecting revised guidance for environmental costs per Order 08-339.
Guideline 9: Direct Access Loads		
9	An electric utility's load-resource balance should exclude customer loads that are effectively committed to service by an alternative electricity supplier.	Not applicable to Avista's gas utility operations.
Guideline 10: Multi-state utilities		
10	Multi-state utilities should plan their generation and transmission systems, or gas supply and delivery, on an integrated-system basis that	The 2009 IRP conforms to the multi-state planning approach.

Guideline Number	Description of Requirement	Fulfillment of Requirement
	achieves a best cost/risk portfolio for all their retail customers.	
Guideline 11: Reliability		
11	Electric utilities should analyze reliability within the risk modeling of the actual portfolios being considered. Loss of load probability, expected planning reserve margin, and expected and worst-case unserved energy should be determined by year for top-performing portfolios. Natural gas utilities should analyze, on an integrated basis, gas supply, transportation, and storage, along with demand-side resources, to reliably meet peak, swing, and base-load system requirements. Electric and natural gas utility plans should demonstrate that the utility's chosen portfolio achieves its stated reliability, cost and risk objectives.	Avista's storage and transport resources while planned around meeting a peak day planning standard, also provides opportunities to capture off season pricing while providing system flexibility to meet swing and base-load requirements. Diversity in our transport options enables at least dual fuel source options in event of a transport disruption. For areas with only one fuel source option the cost of duplicative infrastructure is not feasible relative to the risk of generally high reliability infrastructure.
Guideline 12: Distributed Generation		
12	Electric utilities should evaluate distributed generation technologies on par with other supply-side resources and should consider, and quantify where possible, the additional benefits of distributed generation.	Not applicable to Avista's gas utility operations.
Guideline 13: Resource Acquisition		
13a	An electric utility should: identify its proposed acquisition strategy for each resource in its action plan; Assess the advantages and disadvantages of owning a resource instead of purchasing power from another party; identify any Benchmark Resources it plans to consider in competitive bidding.	Not applicable to Avista's gas utility operations.
13b	Natural gas utilities should either describe in the IRP their bidding practices for gas supply and transportation, or provide a description of those practices following IRP acknowledgment.	A discussion of Avista's procurement practices is detailed in Chapter 5.

Appendix 2.1 Oregon Public Utility Commission IRP Standard and Guidelines – Order 08 - 339

Guideline Number	Description of Requirement	Fulfillment of Requirement
Guideline 8: Environmental Costs		
a.	BASE CASE AND OTHER COMPLIANCE SCENARIOS: The utility should construct a base-case scenario to reflect what it considers to be the most likely regulatory compliance future for carbon dioxide (CO_2), nitrogen oxides, sulfur oxides, and mercury emissions. The utility also should develop several compliance scenarios ranging from the present CO_2 regulatory level to the upper reaches of credible proposals by governing entities. Each compliance scenario should include a time profile of CO_2 compliance requirements. The utility should identify whether the basis of those requirements, or "costs", would be CO_2 taxes, a ban on certain types of resources, or CO_2 caps (with or without flexibility mechanisms such as allowance or credit trading or a safety valve). The analysis should recognize significant and important upstream emissions that would likely have a significant impact on its resource decisions. Each compliance scenario should maintain logical consistency, to the extent practicable, between the CO_2 regulatory requirements and other key inputs.	Avista's current direct gas distribution system infrastructure does not result in any CO2, NOx, SO2, or Hg emissions. Upstream gas system infrastructure (pipelines, storage facilities, and gathering systems) do produce CO2 emissions via compressors used to pressurize and move gas throughout the system. The Environmental Externalities discussion in Chapter 4 describes our process for addressing these costs.
b.	TESTING ALTERNATIVE PORTFOLIOS AGAINST THE COMPLIANCE SCENARIOS: The utility should estimate, under each of the compliance scenarios, the present value of revenue requirement (PVRR) costs and risk measures, over at least 20 years, for a set of reasonable alternative portfolios from which the preferred portfolio is selected. The utility should incorporate end-effect considerations in the analyses to allow for comparisons of portfolios containing resources with economic or physical lives that extend beyond the planning period. The utility should also modify projected lifetimes as necessary to be consistent with the compliance scenario under analysis. In addition, the utility should include, if material, sensitivity analyses on a range of reasonably possible regulatory futures for nitrogen oxides, sulfur oxides, and mercury to further inform the preferred portfolio selection.	The Environmental Externalities discussion in Chapter 4 describes our process for addressing these costs.

Guideline Number	Description of Requirement	Fulfillment of Requirement
c.	TRIGGER POINT ANALYSIS: The utility should identify as least one CO_2 compliance "turning point" scenario which, if anticipated now, would lead to, or "trigger" the selection of a portfolio of resources that is substantially different from the preferred portfolio. The utility should develop a substitute portfolio appropriate for this trigger-point scenario and compare the substitute portfolio's expected cost and risk performance to that of the preferred portfolio – under the base case and each of the above CO_2 compliance scenarios. The utility should provide its assessment of whether a CO_2 regulatory future that is equally or more stringent than the identified trigger point will be mandated.	The Environmental Externalities discussion in Chapter 4 describes our process for addressing these costs.
d.	OREGON COMPLIANCE PORTFOLIO: If none of the above portfolios is consistent with Oregon energy policies (including state goals for reducing greenhouse gas emissions) as those policies are applied to the utility, the utility should construct the best cost/risk portfolio that achieves that consistency, present its cost and risk parameters, and compare it to those of the preferred and alternative portfolios.	The Environmental Externalities discussion in Chapter 4 describes our process for addressing these costs.

Appendix 2.1 Washington Public Utility Commission IRP Policies and Guidelines - WAC 480-90-238

WAC 480-90-238(4)	Work plan filed no later than 12 months before next IRP due date.	Work plan submitted to the WUTC on December 30, 2008, See attachment to this Appendix 1.1	
WAC 480-90-238(4)	Work plan outlines content of IRP.	See workplan attached to this Appendix 1.1.	
WAC 480-90-238(4)	Work plan outlines method for assessing potential resources. (See LRC analysis below)	See Appendix 1.3	
WAC 480-90-238(5)	Work plan outlines timing and extent of public participation.	See Appendix 1.3	
WAC 480-90-238(4)	Integrated resource plan submitted within two years of previous plan.	IRP will be submitted on or before December 31, 2009 within 2 years of our previous plan submitted December 31, 2007	
WAC 480-90-238(5)	Commission issues notice of public hearing after company files plan for review.	TBD	
WAC 480-90-238(5)	Commission holds public hearing.	TBD	
WAC 480-90-238(2)(a)	Plan describes mix of natural gas supply resources.	See Chapter 5 on Supply Side Resources	
WAC 480-90-238(2)(a)	Plan describes conservation supply.	See Chapter 4 on Demand Side Resources	
WAC 480-90-238(2)(a)	Plan addresses supply in terms of current and future needs of utility and ratepayers.	See Chapter 5 on Supply Side Resources and Chapter 6 Integrated Resource Portfolio	
WAC 480-90-238(2)(a)&(b)	Plan uses lowest reasonable cost (LRC) analysis to select mix of resources.	See Chapters 4 and 5 for Demand and Supply Side Resources along with Appendix 4.3 for detailed Demand Side Management programs. Chapter 6 details how Demand and Supply come together to select the least cost/best risk portfolio for ratepayers.	
WAC 480-90-238(2)(b)	LRC analysis considers resource costs.	See Chapters 4 and 5 for Demand and Supply Side Resources along with Appendix 4.3 for detailed Demand Side Management programs. Chapter 6 details how Demand and Supply come together to select the least cost/best risk portfolio for ratepayers.	
WAC 480-90-238(2)(b)	LRC analysis considers market-volatility risks.	See Chapter 5 on Supply Side Resources	
WAC 480-90-238(2)(b)	LRC analysis considers demand side uncertainties.	See Chapter 3 Demand Forecasting	
WAC 480-90-238(2)(b)	LRC analysis considers resource effect on system operation.	See Chapter 5 and Chapter 6	
WAC 480-90-238(2)(b)	LRC analysis considers risks imposed on ratepayers.	See Chapter 5 procurement plan section. We seek to minimize but cannot eliminate price risk for our customers.	
WAC 480-90-238(2)(b)	LRC analysis considers public policies regarding resource preference adopted by Washington state or federal government.	See Chapter 3 demand scenarios	
WAC 480-90-238(2)(b)	LRC analysis considers cost of risks associated with environmental effects including emissions of carbon dioxide.	See Chapter 3 carbon cases used in Alternate Demand Scenarios and Appendix 4.2	

Appendix 2.1 Washington Public Utility Commission IRP Policies and Guidelines - WAC 480-90-238

WAC 480-90-238(2)(b)	LRC analysis considers need for security of supply.	See Chapter 5 on Supply Side Resources	
WAC 480-90-238(2)(c)	Plan defines conservation as any reduction in natural gas consumption that results from increases in the efficiency of energy use or distribution.	See Chapter 4 on Demand Side Resources	
WAC 480-90-238(3)(a)	Plan includes a range of forecasts of future demand.	See Chapter 3 on Demand Forecast	
WAC 480-90-238(3)(a)	Plan develops forecasts using methods that examine the effect of economic forces on the consumption of natural gas.	See Chapter 3 on Demand Forecast	
WAC 480-90-238(3)(a)	Plan develops forecasts using methods that address changes in the number, type and efficiency of natural gas end-uses.	See Chapter 3 on Demand Forecast	
WAC 480-90-238(3)(b)	Plan includes an assessment of commercially available conservation, including load management.	See Chapter 4 on Demand Side Management including demand response section.	
WAC 480-90-238(3)(b)	Plan includes an assessment of currently employed and new policies and programs needed to obtain the conservation improvements.	See Chapter 4 and Appendix 4.1	
WAC 480-90-238(3)(c)	Plan includes an assessment of conventional and commercially available nonconventional gas supplies.	See Chapter 5 on Supply Side Resources	
WAC 480-90-238(3)(d)	Plan includes an assessment of opportunities for using company-owned or contracted storage.	See Chapter 5 on Supply Side Resources	
WAC 480-90-238(3)(e)	Plan includes an assessment of pipeline transmission capability and reliability and opportunities for additional pipeline transmission resources.	See Chapter 5 on Supply Side Resources	
WAC 480-90-238(3)(f)	Plan includes a comparative evaluation of the cost of natural gas purchasing strategies, storage options, delivery resources, and improvements in conservation using a consistent method to calculate cost-effectiveness.	See Chapter 5 on Supply Side Resources	
WAC 480-90-238(3)(g)	Plan includes at least a 10 year long-range planning horizon.	Our plan is a comprehensive 20 year plan.	
WAC 480-90-238(3)(g)	Demand forecasts and resource evaluations are integrated into the long range plan for resource acquisition.	Chapter 6 Integrated Resource Portfolio details how demand and supply come together to form the least cost/best risk portfolio.	
WAC 480-90-238(3)(h)	Plan includes a two-year action plan that implements the long range plan.	See Section 8 Action Plan	
WAC 480-90-238(3)(i)	Plan includes a progress report on the implementation of the previously filed plan.	See Section 8 Action Plan	
WAC 480-90-238(5)	Plan includes description of consultation with commission staff. (Description not required)	See Section 1 Introduction	
WAC 480-90-238(5)	Plan includes description of completion of work plan. (Description not required)	See Appendix 1.3	

APPENDIX 2.2

COMMENTS AND RESPONSES TO 2009 DRAFT IRP

Appendix 2.2 Comments and Responses to 2009 DRAFT Integrated Resource Plan

The following table summarizes the significant comments on our DRAFT as submitted by TAC members and Avista's responses. The planning environment in this IRP cycle was especially challenging given some of the most challenging economic volatility seen in decades coupled with industry changing dynamics in natural gas production. We responded with a more robust, flexible demand forecasting methodology that captured a broader range of demand forecasts fully vetted with our TAC. This IRP produced significantly reduced forecasted demand scenarios (primarily due to significantly lower actual demand since our previous IRP) and no near term resource needs even in our most robust demand scenario. We appreciate the time and effort invested by all our TAC members throughout the IRP process. Many good suggestions have been made and we have incorporated those that enhance the document or we believe could materially change the outcome of this IRP. Recognizing implementation cost/benefit tradeoffs and best use of resources, some suggestions have been deferred for consideration in future IRPs.

Document Reference[1]	Comment/Question	Avista Response
4.9	We are happy to see the increase of 25 percent in Washington and Idaho DSM targets, reducing demand by 2,193,338 therms in the first year (2010). We commend Avista for analyzing each measure separately for this plan. Even though it was more time consuming, it adds confidence to the results.	We are committed to pursuing this aggressive goal recognizing significant challenges exist to overcome tough economic conditions.
4.4	We prefer that an updated assessment of technical and achievable potential would have occurred for this IRP, but are glad to see plans to research and engage a conservation consultant to this analysis prior to the 2011 IRP. Since this current IRP is using a 2005 analysis for the base, it is timely and crucial to update the research for the next round.	An updated external assessment is planned for our next full IRP.

[1] All references are to the September 4th 2009 DRAFT IRP. NP means "not provided". Some referencing has subsequently changed with respect to the FINAL IRP.

Document Reference[1]	Comment/Question	Avista Response
4.4	Achievable potential is covered on page 4.4. We are concerned about the percentage of technical potential that is considered achievable in the North and South territories. In appendix 4.1, it states, "Avista's achievable potential as a percentage of technical potential appears to be lower than other regional utilities", and it explains a few reasons why it is different. We are not satisfied with the explanations. Cascade Natural Gas is using 75% achievable potential for natural gas. Analysis by the Energy Trust of Oregon shows up to 88%. We believe that Avista should consider in more detail why the larger gap between technical and achievable, and determine ways to close the gap. For example, is their technology penetration that may be underestimated? How is this overcome?	As stated in appendix 4.1, Avista acknowledges its achievable potential as a percentage of technical potential appears to be lower than other regional utilities. The methodologies employed by consultants can be quite different between utilities and cannot necessary be comparable on an apples to apples basis. We have agreed to engage a third party consultant prior to our next IRP to improve analysis and development of new baselines for technical potential for us.
4.9	Table 4.3 uses the terms acquirable and DSM goal, and it is not clear how these relate to technical versus achievable. We believe that the terms should be consistent if they are meant to be the same thing, or the terms should be clearly defined.	We have replaced all instances of acquirable with achievable as they are synonymous. DSM goal is slightly different reflecting a phase in of achievable therm savings. Glossary definitions for Technical, Achievable, and DSM goal have been clarified.
4.8	There is a footnote on page 4.8 that accompanies a statement on carbon adders to the price forecast of natural gas. It says, "Adder reflects price impacts to comply with anticipated climate change legislation. Section Two – Demand Forecasts has detailed discussion on our modeling of climate change policy." This discussion is not found in Section Two or anywhere in the base document. Mr. Rahn directed me to Appendix 3.6 and 3.7, where the carbon adder and carbon adder discussion is found. We suggest that some explanation is included in the base document, or it is clearer, where the information can be found.	This was a drafting reference error and has been corrected to reference Appendix 3.6 and 3.7.

Document Reference[1]	Comment/Question	Avista Response
4.11	DSM sensitivities are included on page 4.11. There is an analysis of accelerated and delayed DSM. The accelerated DSM is important because of increased awareness of energy efficiency nationally, accompanied with increased tax credits and incentives. We understand that resource shortages are not expected for many years; therefore it is not imperative to take this sensitivity to the next level and analyze the cost advantages of accelerated DSM in a scenario. Yet, to the extent that resources may be needed in the future, we believe Avista should consider accelerated DSM in alternate scenarios. Avista should continue to carefully watch for signs of either DSM sensitivity occurring and for signs that the demand for new resources should trigger an analysis of an accelerated DSM scenario.	Avista's DSM team monitors actual trends relative to forecast as part of overall program evaluation. We will include monitoring and comparisons to the two alternate sensitivities considering their possible impacts on supply resource needs should they become more imminent.
NP	Although somewhat covered in your scenarios, It would be helpful to clearly illustrate benchmarks in the following areas and how you've arrived at them: a) quantifying the impacts of policy change (fracking and $ per ton carbon legislation)	a) fracking was included in a TAC consensus estimate of broader drilling constraints potential cost adder of $.30 (Drilling Constraints Sensitivity, Appendix 3.7). Carbon legislation impacts were captured in our two Carbon Mitigation sensitivities.
NP	b) recessionary demand (small commercial customers recovering at different rates)	b) for this IRP, we have not modeled demand at this level of granularity
NP	c) shale gas plays	c) impacts of shale gas production are captured in the consultant price forecasts
NP	d) currency valuation (US vs. Canada)	d) Our Canadian Imports Decline sensitivity (Appendix 3.7) considers a generalized escalated cost assumption to compete for higher priced imports whether it be from demand competition from oil sands, LNG exports, long term FX trends, or other price escalating factors.
NP	e) LNG Demand	e) impacts of LNG are captured in the consultant price forecasts

Document Reference[1]	Comment/Question	Avista Response
NP	f) new pipeline infrastructure (impact of connectivity)	g) impacts of pipeline infrastructure are captured in the consultant price forecasts
5.17	Under the "Supply Issues" section, you may include a timeline of when Avista estimates pertinent "Climate Change Policy" to occur.	We have added the following to the section: "Our Expected Case incorporates 2015 policy implementation in accordance with the Western Climate Initiative".
5.17	In the same "Supply Issues" section, you may wish to include the impact of currency exchanges under "Supply from Canada". Fiscal spending will eventually have an impact on inflation, how do you expect this to impact natural gas imports?	Our Canadian Imports Decline sensitivity (Appendix 3.7) considers a generalized escalated cost assumption to compete for higher priced imports whether it be demand competition from oil sands, LNG exports, long term FX trends, or other price escalating factors.
	When describing the "National pipeline infrastructure", you may add a map of completed pipelines, pending pipelines, and a timeline of expected progress (given financial constraints) and impact on natural gas prices.	We were not able to find a suitable map for inclusion in this IRP prior to publication.
NP	More detail and clear positions on the conclusions drawn regarding issues of uncertainty is always helpful.	Comment noted.
1.2	"Avista uses the IRP process to develop two types of demand forecasts — annual average daily and peak day." For the next IRP, add the following measures: seasonal annual average and regional/service areas averages.	Text edited to read "develop two primary types of demand forecasts". These demand profiles as summarized here are derived from detailed daily, regional demand forecasts.
1.3	Peak Day Demand — "Coincidental peak day, system-wide core demand . . ." For the next IRP examine and include alternative definitions of peak demand.	In this plan we included an alternate Coldest Day in 20 years sensitivity analysis to ascertain effect on demand and incorporated into a scenario for resource analysis (Appendices 3.6 and 3.7).
1.3	Figure 1.1 demand growth NET of DSM. Commission wants to see demand growth without DSM and then a discussion of how much of growth is being met by EE.	Table added to Appendix showing gross demand, DSM savings, and Net Demand for Expected Case. Footnote added at 1.3 and 3.10 referencing the table.

Document Reference[1]	Comment/Question	Avista Response
2.6	"We have also incorporated the Monte Carlo simulation module within SENDOUT® (formerly called VectorGas™), to simulate weather and price uncertainty." For the next IRP, add demand uncertainty, resource availability uncertainty, and risk of non-performance.	Demand, resource availability, and non-performance risks are important risks we consider outside of the SENDOUT model. The Monte Carlo simulation module in SENDOUT only has specific functionality around statistically modeling weather and price uncertainty which is what we are highlighting in this statement.
Figure 2.4	This graph needs to cover at least 5 years, and 7 if possible. Otherwise the picture it presents is misleading.	We were merely illustrating the price movement during the most recent IRP planning cycle. We have added additional years with a band highlighting the most recent planning cycle.
2.8 – 2.9	Whenever there is a statement of summary of approach, objectives and commitment, please list the measures, steps, actions or criteria to meet these objectives, example: IRP PLANNING STRATEGY.	Comment noted.
3.1	Demand Forecast Methodology The methodology is overly limited. It's time to include additional methods to forecast demand. Demand for natural gas has always been complex and difficult to predict and is growing more so every day. Avista should make changes to this assessment in the next IRP. It should include other available approaches that could be applied and are within the capabilities of Avista. The following should be considered: 1. Prediction markets; 2. Systems approaches; 3. Game theory; and 4. Behavioral economics. Delphi approaches might also be very useful as well as certain forms of data mining. Techniques developed by Economic/Financial Anthropology and Sociology should also be evaluated.	We believe our methodology is sound, cost effective and adequate for forecasting demand but are open to evaluating alternative demand forecasting methodologies in future IRPs. This IRP's methodology was presented to STAFF for feedback in early 2009 and disclosed in our annual update. It was developed to encompass a wide range of demand forecasts by focusing on key demand drivers and varying assumptions. Numerous demand drivers and assumptions were explored with significant input from TAC members during our TAC meeting process.

Document Reference[1]	Comment/Question	Avista Response
3.2	Demand Modeling Equation Weather and simple price are not the only factors effecting customer use of natural gas. Environmental concerns, pressure from community groups (e.g., political, religious, etc.), ethnic background, socioeconomic status, urban/rural location, occupation, etc. also effect usage.	The equations show the methodology and inputs used by the SENDOUT model, namely number of customers, weather and use per customer. We capture other considerations through use per customer cooeficient adjustments as more fully explained later in Chapter 3 and in Appendix 3.6 & 3.7 which was discussed with STAFF in March 2009 and extensively vetted with our TAC throughout the summer.
3.2	Number the "word equations" in these two tables so it's clear the second table is a detailed presentation of the first.	Numbering added.
3.2	Customer Forecasts Need to look at factors related to customers' choices about energy uses and the types of energy to use. These are not alone economic decisions. See above for other methods that could be applied to meet this goal.	We believe our methodology is sound and adequate for forecasting customer growth but are open to evaluating alternative demand forecasting methodologies in future IRPs.
3.3	"Forecasting customer growth is an inexact science so it is important to consider alternative forecasts. Two alternative forecasts were developed for consideration in this IRP. During the last 25 years, customer growth during five-year periods has ranged between one-half and one-and-a-half times the 25-year average customer growth rate. Since both patterns have been observed, Avista has created low and high customer growth alternatives with these parameters." This is wholly extrapolation based. Results need to be checked and assessed using other methods.	The alternative forecasts are reflective of and derived from our actual historical growth patterns seen over various periods. These forecasts develop a range of possible customer forecast outcomes that compares reasonably with detailed independent consultant population, household, employment and business growth forecasts we obtain and consider when preparing our forecasts (Appendix 3.1).

Document Reference[1]	Comment/Question	Avista Response
3.4	"The first step in developing demand coefficients was gathering daily historical gas flow data for all of our city gates. Three years of data were gathered, segregated by service territory/temperature zone and then by month." For reliable statistical analysis at least 5 years of data should be used. Three years is simply too small a sample unless we were to use techniques specifically for small samples, which are difficult to use and risky.	We performed extensive analysis on historical demand and development of predictive coefficients as part of our 2007 Action Plan (page 8.3, Demand Forecasting, second item). Our coefficients are derived from daily demand data representing over 90 data points for each monthly coefficient per sub region that derives a baseline use per customer (over 8000 data points total). These were checked through backcasting against actual demand in the most recent year. Older data has risks of diluting the most recent customer usage habits, DSM efforts, new customers, etc.
3.4 and Figure 3.3	"We then applied linear regression to the data to develop a linear relationship of usage to HDD." This is obviously not a linear relationship. Non-linear regression would be best to use, but since that is complex and difficult to apply, I suggest using log-linear lines fitted either by trial and error, or just by eye.	Figure 3.3 shows twelve sets of data designated by color for each MONTHLY coefficient. Linear regression on these individual data sets produces very high R^2 in excess of .9 supporting a strong linear relationship (Appendix 3.3). The graphic was instructive in our TAC meeting when we discussed in detail our monthly coefficient development but we agree the graphic is confusing here and is removed.
3.5	"One inherent drawback to this methodology is the lack of sufficient data points to develop a strong linear relationship. More years of data can help, but the older data becomes less and less relevant to current demand relationships." This is the strongest reason to find a nonlinear (if still using statistical approaches) alternative here.	Our challenge with consumption patterns in extreme temperatures is collecting sufficient, current data to determine a sufficiently predictive relationship. We are exploring using confidence intervals to quantify probabilities of consumption patterns under extreme temperature conditions for our next IRP.

Document Reference[1]	Comment/Question	Avista Response
5.8	"Determining the appropriate level of firm transportation is a complex evaluation of many factors, including the projected number of firm customers and their expected annual and peak day demand, opportunities for future pipeline or storage expansions, and relative costs between pipelines and their upstream supplies. It is important to maintain an appropriate time cushion to allow for required lead times for securing new capacity. Also, the ability to release capacity offsets the cost of holding underutilized capacity." A full transportation capacity needs study should be performed every 5 years or so to verify the levels and mix of pipeline capacity contracted for and its cost. When was the last such study performed by Avista? If not within the last 5 years, it should be completed as part of this IRP or the next IRP. Without a study, how has risk to meet demand been mitigated?	Our IRP analyses demand and the preferred resources to serve it. Transportation needs and resources are part of this analysis. This IRP indicates no near term resource needs for any of the range of demand forecasts modeled. Where existing capacity is not available for future needs, we utilize estimates for pipeline expansions as commissioning formal pipeline cost studies apply only to specific paths, are costly to perform, have limited shelf life, and are not binding commitments.
5.13	"In our modeling, we utilized available cost and other information to develop more generic pipeline resource alternatives rather than specifically modeling the various segments." Specifically, what pipeline capacity modeling approach(es) was employed?	The region's specific proposed pipelines do not provide full path deliverability to our service territories. In our model we input transport resources that assume full path deliverability while considering cost and other characteristics of the region's proposed specific pipelines.

Document Reference[1]	Comment/Question	Avista Response
5.13	"To accurately assess costs and location feasibility of potential expansion scenarios requires detailed engineering studies by the pipelines. These studies can be expensive and of limited shelf life for projects that might be developed well into the future. Consequently, we employ estimates derived from our knowledge of historical costs, reasonable price escalations, and site specific issues that may impact a specific scenario. We combine this knowledge with past information from the pipelines to develop a reasonable basis for our transportation analysis." See above comment on the need for a full and complete transportation needs and costs study every 5 years or so.	Our IRP serves as a transportation needs study which indicates no near term needs. Because of this, we are not advocating engaging a detailed cost study.
6.1	This chapter is too long primarily because it repeats many items and data from previous chapters. Please reduce this repetitiveness, use references more and less repeated explanations. Most importantly emphasize the integration process. How does SENDOUT examine and compare supply-side and demand-side resources on a comparable basis, if not a totally identical basis?	We have separated the information into two chapters encompassing our expected case and alternate scenarios/portfolios/stochastic analysis.
6.2 (Figure 6.1)	General comment – make sure figures are brought in at high enough resolution to be clear.	Acknowledged. Figure 6.1 presents challenges as it is an image extracted out of the SENDOUT software in bitmap format, a low resolution format. We have added a larger version of the figure at Appendix 6.5.
6.29	Place the tables in Appendix 6.9 somewhere around here and explain the choice among the portfolios clearly and concisely. Once completed it should be clear to the reader why the portfolio chosen was the best price, least risk selection in terms of Avista's criteria and the IRP guidelines. The cost criteria must be NPVRR, per the IRP guidelines. Similarly, portfolios not selected should be clearly and concisely explained so as to make it clear why they were not selected.	Summary information added to a new chapter indicating portfolios examined, portfolio selection, and NPVRR criteria used.

Document Reference[1]	Comment/Question	Avista Response
Appendix – general comment	Make sure all pages are numbered	Page numbers added.
Appendix 3.7	How Avista's budget constraints would limit DSM acquisition?	Budget constraints aren't necessarily the source of the limitation on Avista's acquisition of DSM resources. However, the results of the SENDOUT model do not incorporate the aggregate infrastructure costs associated with major year-to-year changes in DSM infrastructure and strategy. Thus, when SENDOUT identifies the need for a major shift in the direction of our DSM resource acquisition, it must then be filtered through an implementation planning process that takes these previously unidentified costs into account. The result is a plan which will meet the long-term resource acquisition objectives identified by SENDOUT without unduly accelerating infrastructure costs. Examples of the improvements to the raw SENDOUT results might include the phasing in or out of incentives based upon market considerations, acceleration or deferral of certain programs to allow for coordination with non-Avista stakeholders (manufacturers, ETO, regional or national initiatives), shaping the ramp-up of acquisition to avoid inducing market shortages and increases in retail prices and constraining year-to-year increases in Avista DSM infrastructure to avoid increasing administrative or productivity costs due to excessively rapid growth.

Document Reference[1]	Comment/Question	Avista Response
Appendix 6.2	Projected Long-Term Cost of Capital -- Avista Utilities for Net Present Value Analysis Why is Avista using a cost of capital rate different from its authorized (current) cost of capital by OPUC for its NPVRR analysis? Is this an error?	There is no error. Consistent with past IRP's we utilize a blended rate reflecting all three jurisdictions using the most recent rates at the time of initiating our analysis.
Appendix 6.9	Move most if not all of Appendix 6.9 into the body of the IRP document. Label these tables as NPVRR if that is what they are, per the guidelines requirement. If these are not NPVRR calculations, please correct the table to reflect such.	Summary information added to a new chapter indicating portfolios examined, portfolio selection, and NPVRR criteria used.
Appendix 6.9	How is the diversity of a portfolio valued? Avista should consider developing a portfolio matrix with the NPVRR, ranking of diversity, ranking of risk and whatever else the company will inevitably subjectively use to choose a portfolio.	Each portfolio has varying assumptions around price, customer counts, weather, resource availability, etc. Portfolios are then compared and ranked based on the NVPRR as detailed in Appendix 6.9 and now summarized in a new chapter as per the response to the comment at document reference 6.1 above. Also, appendix 3.6 and 3.7 includes detailed descriptions of the assumptions of each portfolio.
4.11	DSM accelerated sensitivities are limited to Tax credits. There are other factors that can incite customers to pursue DSM measures such as higher commodity prices, high demand, weather, and revenue incentive mechanisms. Please include and discuss all factors that affect this scenario.	This was a specific TAC recommended scenario to address the potential impacts of then recently passed tax credits. We considered a host of use per customer adjustments including price elasticity and weather in our other sensitivities and scenarios analysis (Chapter 3 & Appendix 3.6, 3.7)

Document Reference[1]	Comment/Question	Avista Response
4.11	DSM Delayed Please explain the specific budget constraints influence customer incentives. Does the absence of a regulatory incentive mechanism such as decoupling or public purpose funding present a conflict for the company to promote energy efficiency and conservation?	Avista is committed to budgeting for the acquisition of cost-effective DSM resources. This can be a challenging era when rapid growth in DSM acquisition may be called for. It is our intent to be responsibly responsive to the changing DSM resource environment. This may include tempering our year-to-year response in consideration of the potential impacts upon infrastructure cost, coordination with other stakeholders and impacts upon retail markets for energy-efficiency goods and services. The opportunity for Avista to obtain full fixed cost recovery on measures implemented through the DSM program removes adverse shareholder impact upon increasing acquisition through the DSM portfolio. The Company continues to monitor mechanisms which provide for fixed cost recovery for decreases in usage.
4.9	Table 4.3: The cumulative goal in the North Division increases from approximately 2.2 million therms in CY 2010 to 54.7 million therms in 2029, i.e. 27 times while it increases in the South Division by approximately 15 times. Given that Avista' s independent study to identify potential energy savings was based on Oregon service territories and then extrapolated the methodology to the North Division, how did Avista base its projections for much higher savings in the North Division?	North Division includes a significant phase in whereas the South Division uses a modest phase in (Figures 4.4, 4.5). Using the Cumulative Potential results in a generally comparable relationship of approximately 17 and 14 times for North and South Divisions, respectively. Also, the colder temperature of the North Division inherently facilitates increased therm savings for weather sensitive measures.

Document Reference[1]	Comment/Question	Avista Response
Appendix 4.2	Please explain why measures with the same description are listed multiple times. Also explain why the savings are different. Several measures as Duct sealing (#21), high efficiency water heater (#50), Tankless Water Heaters (#66) show very significant technical savings. How does Avista plan to identify and take steps to increase the acquirable savings since these measures could achieve significant results?	A column was omitted in error from the published table which delineates customer type such as single family residential, multifamily residential, mobile home, etc. The table has been updated to include the customer type information. Appendix 4.1 discusses the errors encountered with technical potential in our most recent external study. An updated external assessment is planned for our next full IRP.
Action Plan 8.5	With regard to monitoring commodity, storage and supply resources, has the economy rebounding sooner rather than later been taken into consideration in the associated results?	Yes. Our high growth scenario considers a robust economic recovery while recognizing significant supply capacity exists from previous dramatic production cuts.
Action Plan 8.7	Avista included analysis of realistic alternative world situations in which Avista may have to operate during the next 20 years, particularly in light of current, new and proposed state, federal and Canadian energy policies and the ongoing evolution of North American and world natural gas, oil and coal markets, in its action plan as required in the acknowledgement of its last IRP. The need of additional action items for this IRP has not been determined at this point.	We cannot address potential additional recommended action items until they are known.

Document Reference[1]	Comment/Question	Avista Response
4.7	What is the logic behind the adjustment for non-residential program duplication on page 4.7 in Table 4.2? The description in the text says it is an adjustment for site-specific programs and the measures accepted in SENDOUT, but the non-residential program number in the table is only 75,601. Please explain.	Table 4.2 summarizes the achievable potential by customer type (residential and non-residential). For non-residential, individual prescriptive measures are entered into SENDOUT but the customized nature of site specific acquisition requires estimation. The 811,920 therms (for 2010) is the estimated total gross technical potential for site specific bundled programs which **includes** certain prescriptive measures included in the bundle. The estimated technical potential for the prescriptive measures (on a standalone basis) included in the 810,920 therm estimate is 685,440 therms which is conceptually already captured in the technical and achievable potential for the individual prescriptive measures entered into SENDOUT and therefore needs to be netted out to avoid double counting. The net amount of 126,480 therms is the estimated net non-residential, non-prescriptive therm savings, essentially the highly customized measures which are not able to be standardized and input into SENDOUT. The 75,601 Dth represents the achievable potential of the individual non-residential prescriptive measures that were entered, tested and selected in SENDOUT.

APPENDIX 3.1

CUSTOMER FORECASTS

APPENDIX 3.1 – CUSTOMER FORECASTS

OVERVIEW

Avista presented their 2009 Natural Gas Demand Forecast to the Technical Advisory Committee (TAC) in April 2009. What follows in narrative is the process of preparing the base customer growth forecast. The first step is a framework forecast of the national economy, followed by regional economic forecasts consistent with the national outlook. The employment and population forecasts are the key drivers for the natural gas customer forecast.

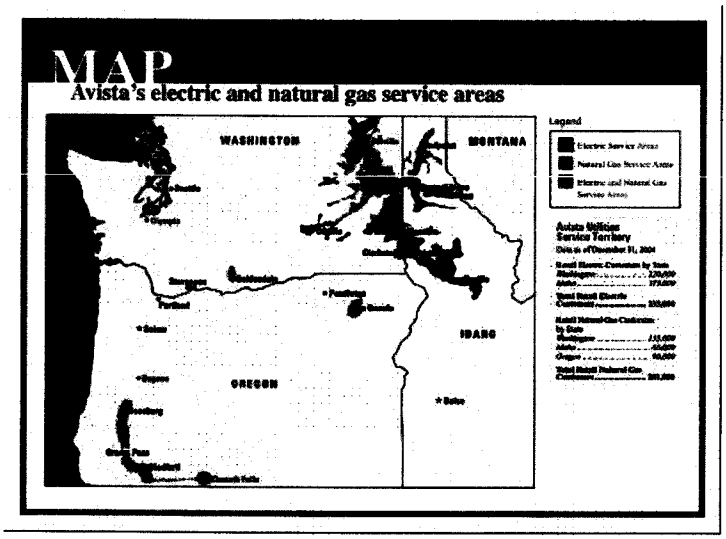
NATIONAL ECONOMIC OUTLOOK

Avista has contracted for national economic forecasts with Global Insight, Inc. for over two decades. The Spring 2008 twenty-five year long term forecast was used as the basis for the 2009 effort; the Spring 2009 county forecast update took into account the depth of the current recession but was largely unchanged after the anticipated economic recovery. The following narrative has Avista remarks and Global Insight forecasts (used with permission) which are consistent with the presentation at the TAC in April 2009, with a focus on the near term national outlook.

The U.S. Gross Domestic Product is expected to rebound to levels in 2010 to the 2.5 to 3.0 percent range after the severe recession in 2008 and 2009. Longer term the rate settles in at 2.6 percent.

REGIONAL ECONOMIC OUTLOOK

Avista serves natural gas in eastern Washington, northern Idaho, and in portions of five counties in Oregon. The principal county in Washington is Spokane, while in Idaho there are two counties; Kootenai and Bonner are barometers of service area growth. Kootenai County includes Coeur d'Alene, Post Falls, Hayden and a host of smaller municipalities and Bonner County is anchored by Sandpoint. The primary cities in Spokane County are the City of Spokane, City of Spokane Valley and Liberty Lake. In Oregon, the counties (principal city) of Jackson (Medford), Josephine (Grants Pass), Douglas (Roseburg), Klamath (Klamath Falls) and Union (La Grande) round out the service territory. The map below shows the breadth of the service area.



Global Insight, Inc. has been providing county-level forecasts to Avista for several years. These forecasts are consistent with and driven by their national forecast.

The economic concepts provided are forecast forward for 30 years. We report below forecast data ending in the year 2030, the twenty-year horizon IRP horizon.

Overall, the results of the economic forecasts suggest the following impacts on Avista's customer growth: Near term the weakness in construction will be mirrored with slow customer growth, while longer term, underlying employment and population growth will drive customer growth.

The following table indicates a listing of 21 counties served with natural gas by Avista. We purchased economic forecasts for the 15 principal counties.

Table of Counties Served (All or Portions)

Washington	Idaho	Oregon
Adams*	Benewah	Douglas
Asotin	Bonner	Jackson
Franklin*	Boundary	Josephine
Grant*	Latah	Klamath
Klickitat*	Nez Perce	Union
Lincoln*	Shosone	
Skamania*		
Spokane		
Stevens		
Whitman		

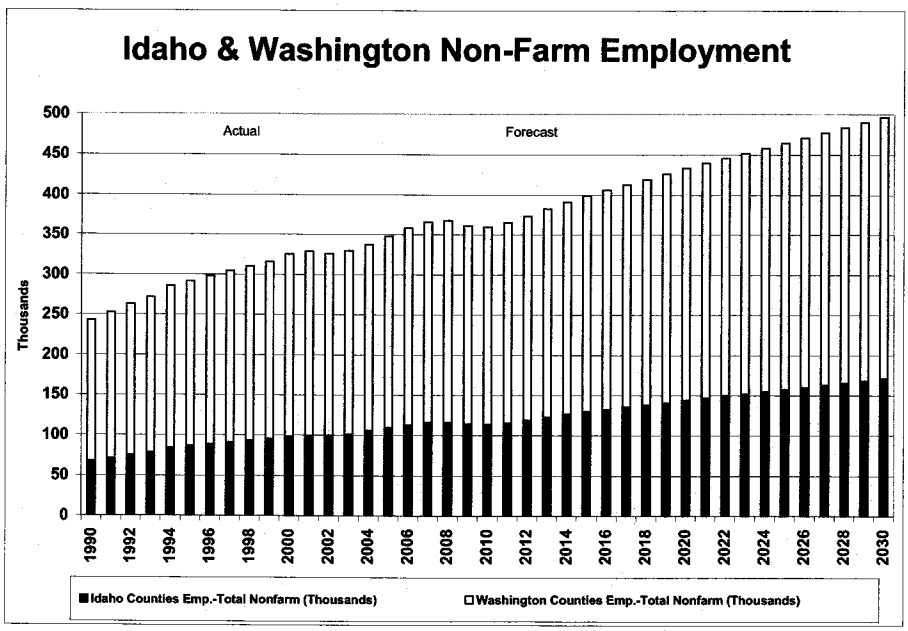
*Did not purchase economic data, few customers served

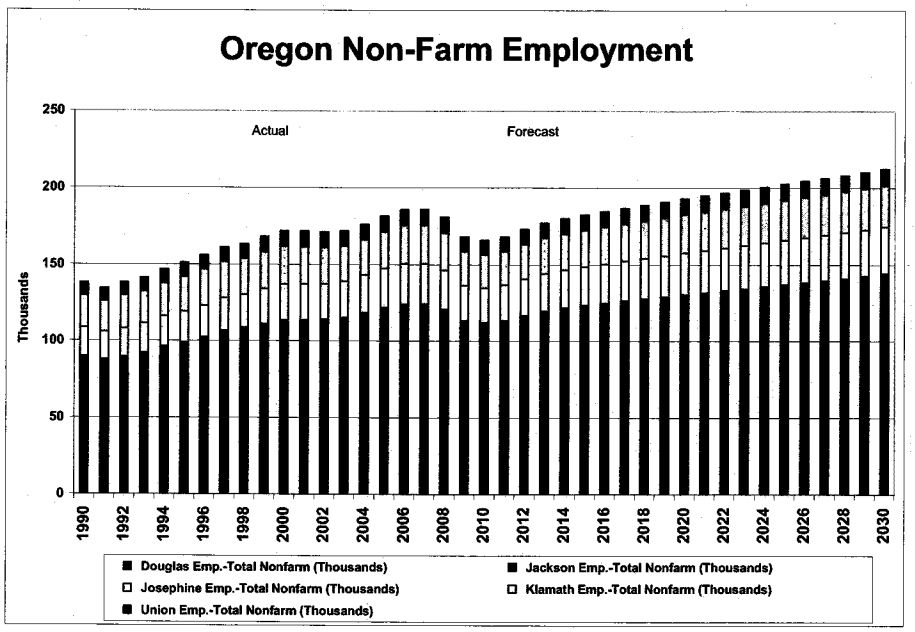
The charts that follow are the actual employment, population, population age 65 and over, number of households and personal income forecasts used to produce the natural gas customer forecasts by state, by customer class (residential, commercial and industrial) and by rate schedule (firm – small, medium and large-sized customers).

Although the forecasts are prepared in detail by county, the charts aggregate the data by State.

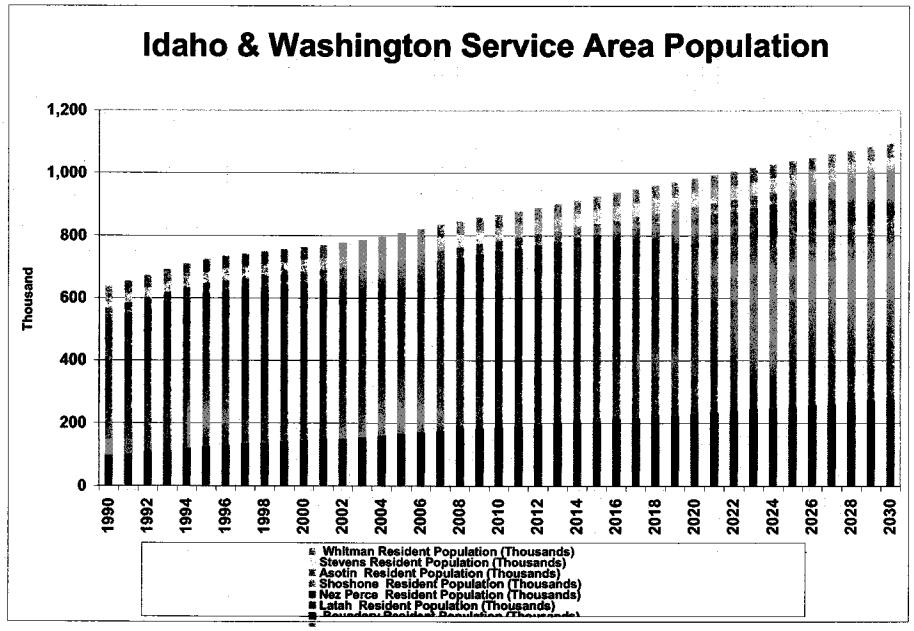
The first pair of charts is Non-Farm Employment. During the last decade, fairly consistent growth in jobs was observed except during recession periods in 2000-01 and at the present time.

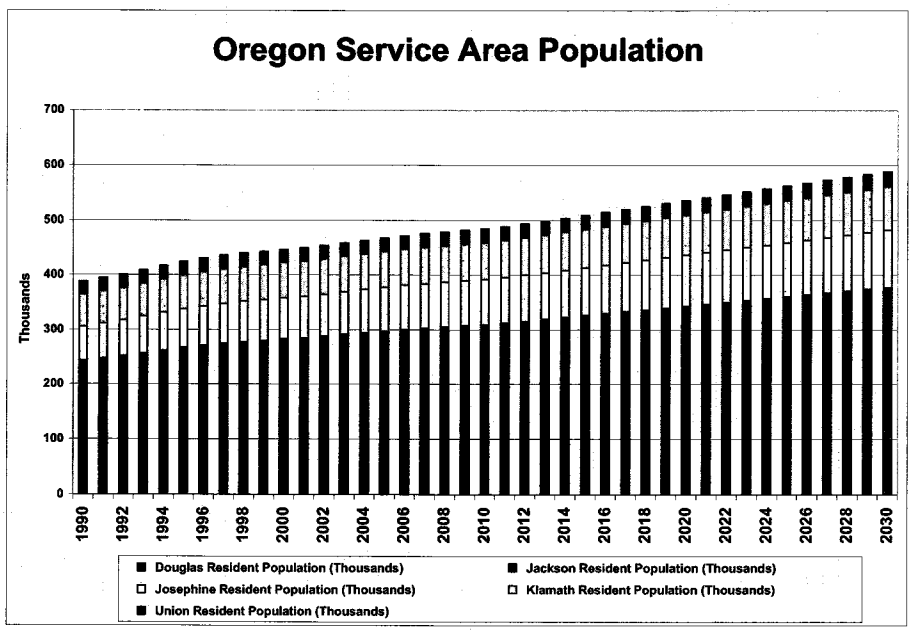
The twenty year average compounded growth rate in jobs for Idaho Counties was 2.6 percent from 1990-2010, and is forecast to be 2.1 percent for the period 2010-2030. Washington Counties were 1.7 percent from 1990-2010, and is forecast to be 1.4 percent for the period 2010-2030. And Oregon Counties were 0.9 percent from 1990-2010, and is forecast to be 1.2 percent for the period 2010-2030.



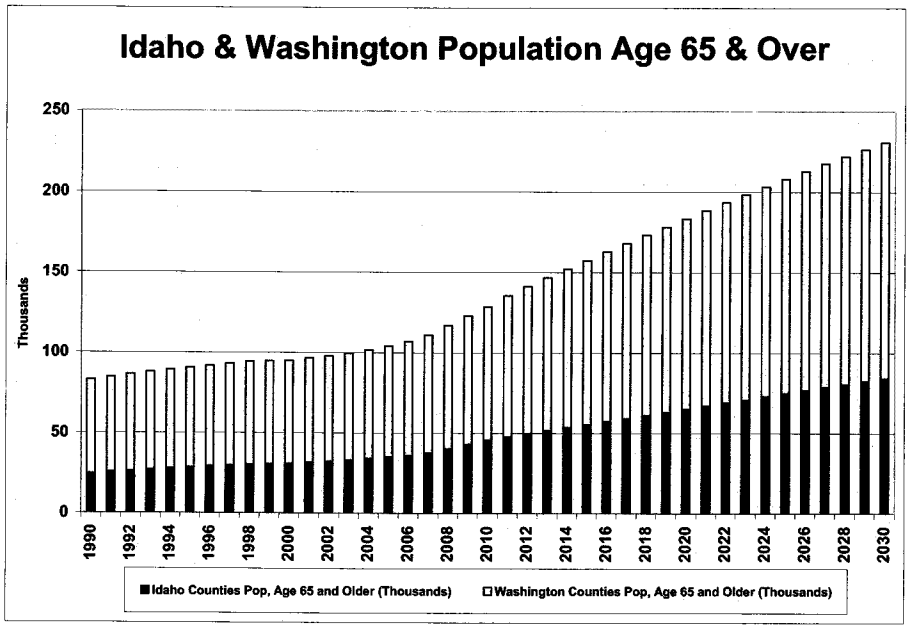


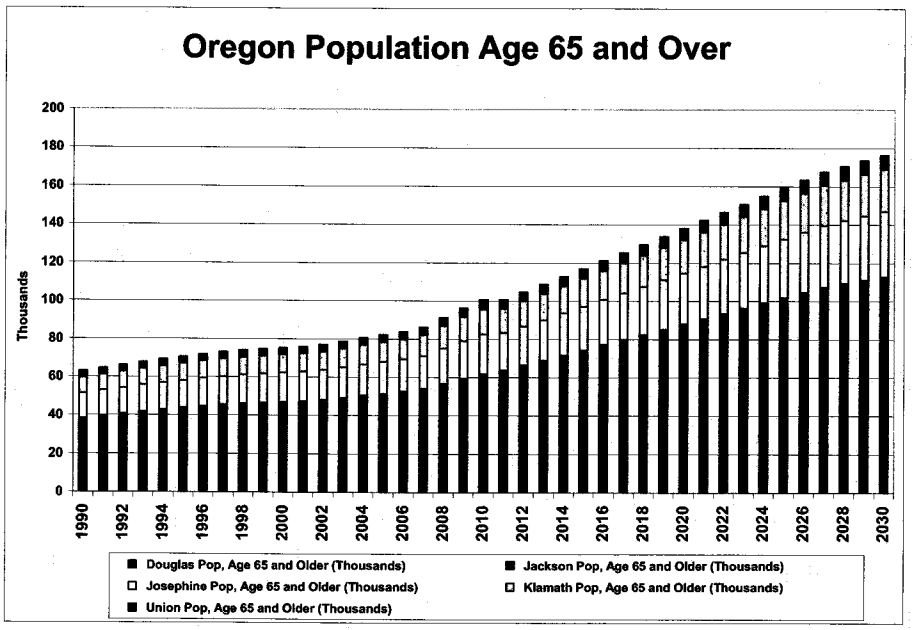
Next is resident population. The twenty year average compounded growth rate in population for Idaho Counties was 2.2 percent from 1990-2010, and is forecast to be 1.5 percent for the period 2010-2030. Washington Counties were 1.3 percent from 1990-2010, and is forecast to be 1.0 percent for the period 2010-2030. And Oregon Counties were 1.1 percent from 1990-2010, and is forecast to be 1.0 percent for the period 2010-2030.



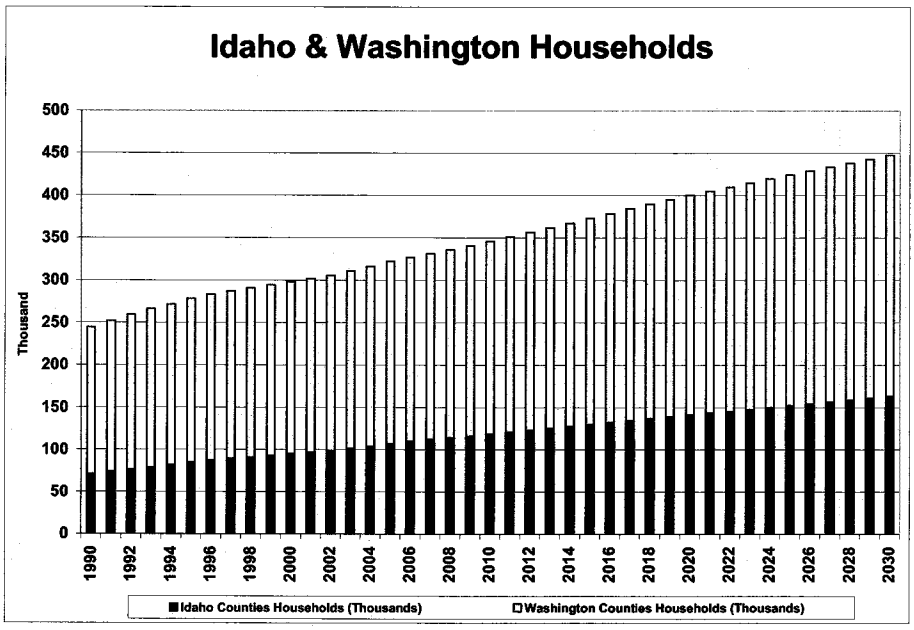


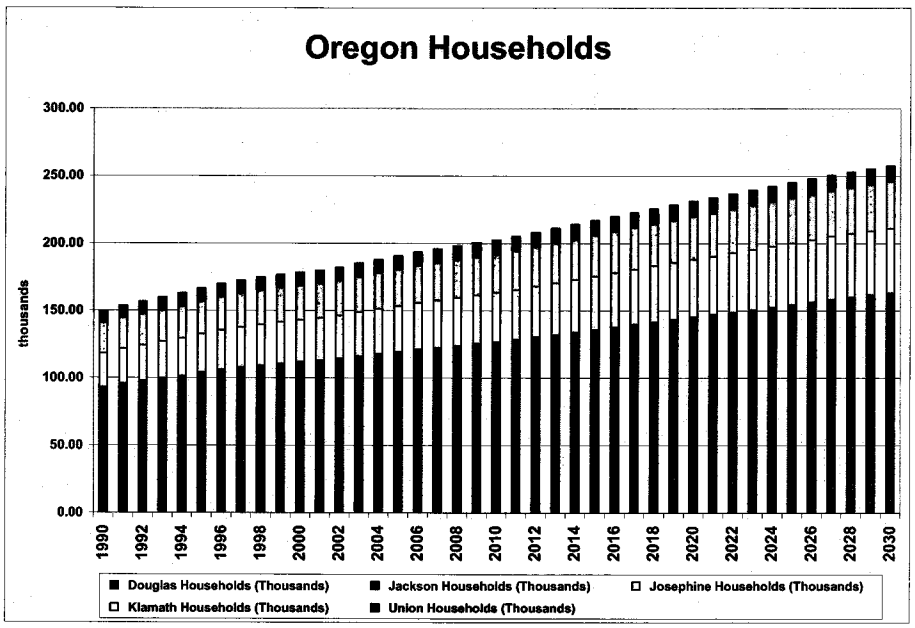
The next pair of charts is persons 65 years and over. The twenty year average compounded growth rate in persons 65 and over for Idaho Counties was 3.1 percent from 1990-2010, and is forecast to be 3.1 percent for the period 2010-2030. Washington Counties were 1.8 percent from 1990-2010, and is forecast to be 2.9 percent for the period 2010-2030. And Oregon Counties were 2.4 percent from 1990-2010, and is forecast to be 2.8 percent for the period 2010-2030.





The next economic variable used in the preparation of Avista's forecast is number of resident households in the service area. The household growth rate for Idaho Counties was 2.6 percent from 1990-2010, and is forecast to be 1.6 percent for the period 2010-2030. Washington Counties were 1.4 percent from 1990-2010, and is forecast to be 1.1 percent for the period 2010-2030. And Oregon Counties were 1.5 percent from 1990-2010, and is forecast to be 1.2 percent for the period 2010-2030.





REFERENCE CASE FORECASTS OF CUSTOMERS SERVED

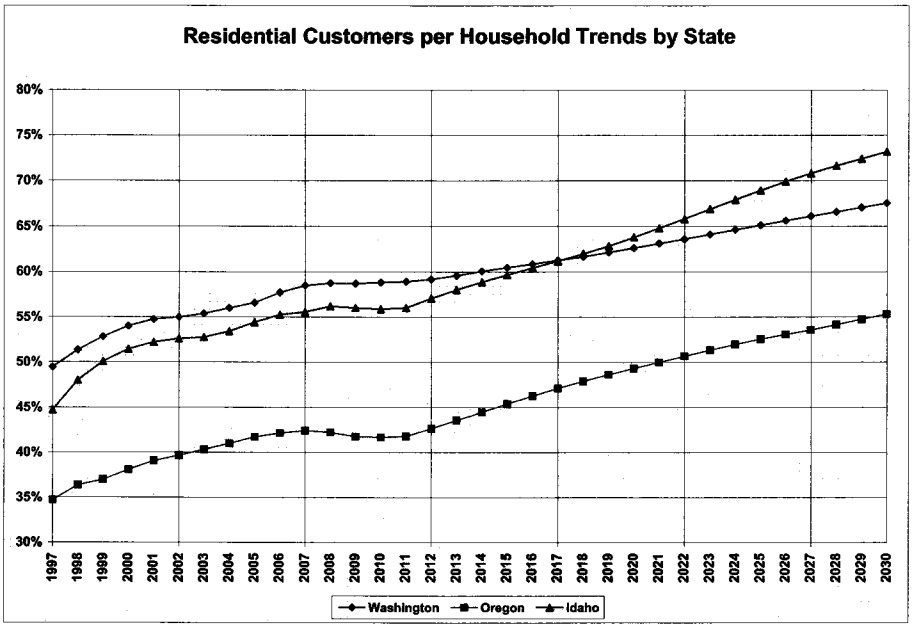
Reference case customer forecasts for residential customers are consistent with our economic forecasts. The relationship has been changing over the last decade, and the forecasts take into account the most recent trends. As shown on the next figure, the number of residential customers per household grew rapidly between 1997 and 2001, while it has slowed during the present economic downturn. About half of the growth between 1997 and 2001 was due to fuel switching of existing homes from other heating sources to natural gas. Although fuel switching continues to occur, today it represents only 15 percent of customer additions.

To produce the customer forecast, we look at recent trends in housing construction and the likelihood those homes will be served with natural gas. For example, in Washington, the number of single family homes being constructed has declined, with apartment dwellings taking a larger market share. Multi-family housing has traditionally been served with electricity only, limiting the number of available dwellings for natural gas service.

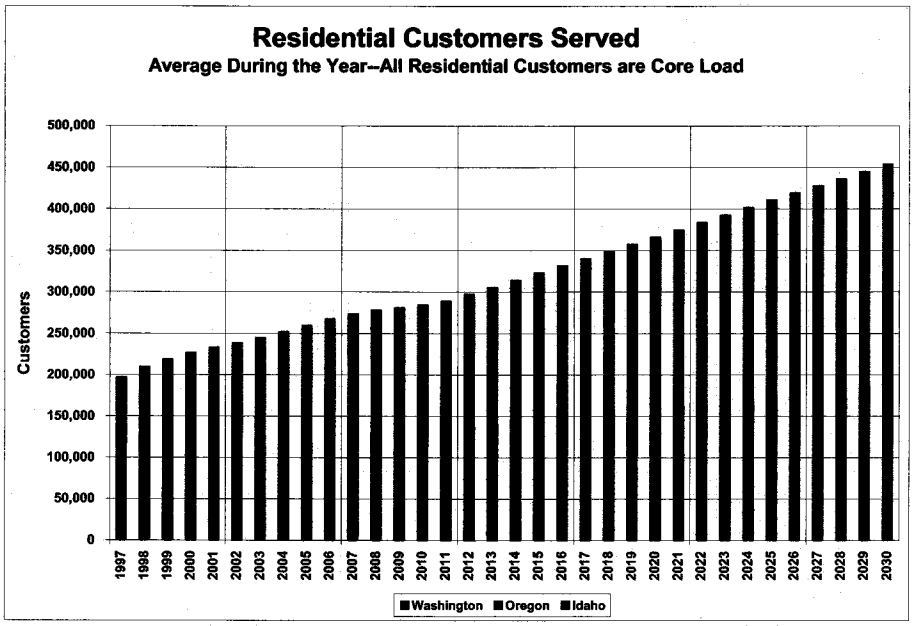
However, in the areas outside of the urban core of Spokane, including the rest of Washington, much of Idaho and Oregon, housing construction activity has maintained very high levels of single family homes, whether detached-style homes on individual lots or attached-style homes, like duplexes, townhomes, or condominiums. This market is traditionally served with natural gas water and space heat, and many of these homes now are being built with natural gas clothes dryers, gas ranges and ovens and natural gas fire places.

Because growth management laws are in place in all of Avista's natural gas service areas, we assume these construction trends in the urban growth areas will be served with natural gas, and do not anticipate any switching to electricity. We have an effort under way to encourage multi-family builders, who typically are building apartments for rental purposes, to include natural gas appliances, but this forecast does not assume this effort will lead to a change in construction practices. We will continue to monitor activity in the multi-family housing segment.

The forecast assumes that the trends of the last five years continue into the future, adjusted for the sharp building cycle presently under way and based on the household forecasts provided by Global Insight. The next chart shows the number of residential customers per household. The reason this ratio is increasing in the forecast period is because the ratio of homes being added is higher than the current ratio. This is largely driven by the assumption of nearly 100 percent of new homes having at least one natural gas service. Also, outside of the Medford and Spokane metropolitan areas, the multi-family construction market is very small. The only exception would be in Pullman and Moscow where growth in university enrollments is leading to apartment construction activity in those special areas. To a lesser extent, La Grande, Klamath Falls, and Ashland are seeing student growth-driven apartment construction, but to a small extent.

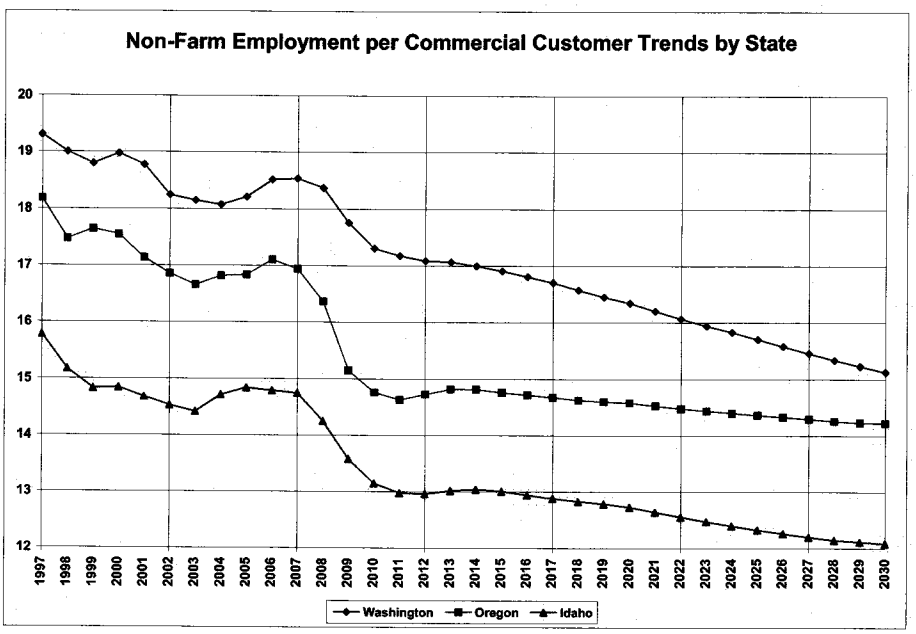


The residential customer forecast is the product of the customers-per-household forecast and the household forecast from Global Insight.

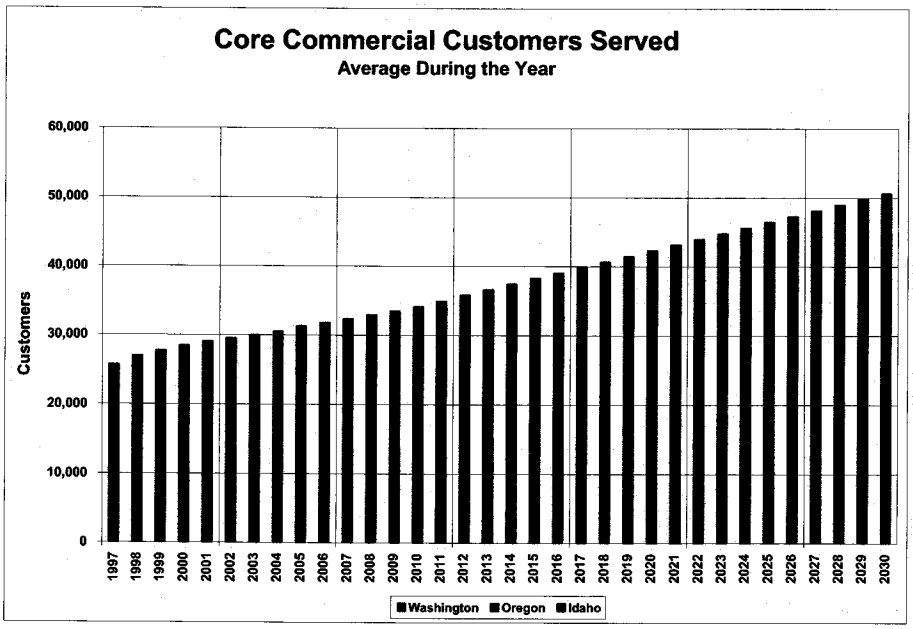


Core commercial customers served are based on job forecasts for each county, as well as the number of residential customers. The figure below shows ratio of non-farm workers per commercial customer. The previous ten years show declines in numbers of workers early in the period, followed by a buildup until recently. This build up is due to an increase in the number of big-box retail stores, which have moved from the very large metro areas into the smaller metro areas served by Avista. We believe that build out is largely complete. We do not anticipate new large mall-type complexes will be built in to any great extent. Therefore, in a few more years we expect the number of workers will again begin to decline as smaller shops and strip-mall developments fill into the neighborhood developments. We have taken into account the known shopping areas that have been either permitted or have a high probability of being built in the near term forecast. As

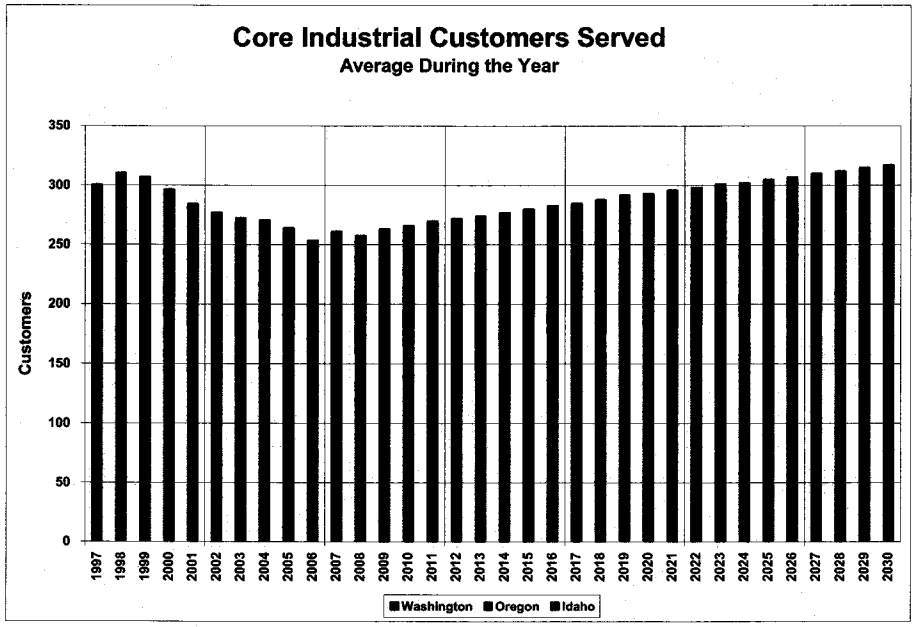
shown in the chart, although declines are forecast, they are very modest and reflect the particular characteristics of the existing mix of commercial developments in each state.



The commercial customer forecast is based on job forecasts multiplied times the forecasted ratio of workers per customer as described above.



Core industrial customers served are based on manufacturing job forecasts for each county. The number of manufacturing workers is expected to be growing slowly over the forecast period, leading to little change in the number of core firm industrial customers.


Core Industrial Customers Served
Average During the Year
Customers
350
300
250
200
150
100
50
0
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
2018
2019
2020
2021
2022
2023
2024
2025
2026
2027
2028
2029
2030
Washington
Oregon
Idaho

APPENDIX 3.2

CUSTOMER FORECASTS DATA

Appendix 3.2 - Customer Forecast - Number by Region
Expected Case

	WA/ID				Medford				Roseburg				Klamath Falls				La Grande			
	WA/ID Res	WA/ID Com	WA/ID Firm Ind	WA/ID Total	MFR Res	MFR Com	MFR Firm Ind	MFR Total	ROS Res	ROS Com	ROS Firm Ind	ROS Total	KLA Res	KLA Com	KLA Firm Ind	KLA Total	LGD Res	LGD Com	LGD Firm Ind	LGD Total
Nov-09	198,391	22,419	244	221,054	50,414	6,436	10	56,860	13,075	2,140	2	15,217	13,863	1,623	5	15,491	6,465	885	5	7,355
Dec-09	199,080	22,487	245	221,812	50,685	6,469	10	57,164	13,139	2,145	2	15,286	14,007	1,639	5	15,651	6,508	914	1	7,423
Jan-10	199,523	22,676	242	222,441	50,982	6,497	10	57,489	13,190	2,153	2	15,345	14,092	1,658	5	15,755	6,575	903	1	7,479
Feb-10	199,531	22,685	244	222,460	50,882	6,516	11	57,411	13,209	2,152	2	15,363	14,120	1,686	5	15,811	6,559	902	1	7,462
Mar-10	199,433	22,687	242	222,362	50,788	6,482	10	57,280	13,191	2,198	2	15,391	14,067	1,686	5	15,758	6,518	903	1	7,422
Apr-10	198,981	22,859	248	222,088	51,015	6,529	10	57,554	13,198	2,168	2	15,368	14,048	1,661	5	15,714	6,493	892	1	7,386
May-10	198,853	22,862	248	221,963	50,853	6,520	10	57,383	13,163	2,169	2	15,334	13,983	1,644	5	15,632	6,461	892	1	7,354
Jun-10	198,659	22,926	244	221,829	50,690	6,526	10	57,226	13,059	2,164	2	15,225	13,863	1,638	5	15,506	6,450	884	1	7,335
Jul-10	199,204	22,948	247	222,399	50,630	6,480	10	57,120	13,042	2,176	2	15,220	13,803	1,638	5	15,446	6,376	890	1	7,267
Aug-10	199,177	22,932	248	222,357	50,434	6,476	10	56,920	13,035	2,166	2	15,203	13,726	1,635	5	15,366	6,350	892	1	7,243
Sep-10	199,855	22,935	245	223,035	50,353	6,474	10	56,837	12,955	2,167	2	15,124	13,748	1,640	5	15,393	6,348	889	10	7,247
Oct-10	200,460	23,000	248	223,708	50,542	6,480	10	57,032	13,094	2,173	2	15,269	13,883	1,651	5	15,539	6,439	894	7	7,340
Nov-10	201,401	22,955	248	224,604	51,014	6,536	10	57,560	13,225	2,200	2	15,427	14,013	1,673	5	15,691	6,490	890	5	7,385
Dec-10	202,090	23,023	249	225,362	51,285	6,569	10	57,864	13,289	2,205	2	15,496	14,157	1,689	5	15,851	6,533	919	1	7,453
Jan-11	202,744	23,237	244	226,225	51,682	6,602	10	58,294	13,340	2,225	2	15,567	14,242	1,725	5	15,972	6,625	913	1	7,539
Feb-11	202,752	23,246	248	226,246	51,582	6,623	11	58,216	13,359	2,224	2	15,585	14,270	1,753	5	16,028	6,609	912	1	7,522
Mar-11	202,654	23,248	246	226,148	51,488	6,587	10	58,085	13,341	2,270	2	15,613	14,217	1,753	5	15,975	6,568	913	1	7,482
Apr-11	202,202	23,420	252	225,874	51,815	6,634	10	58,459	13,398	2,240	2	15,640	14,248	1,728	5	15,981	6,543	902	1	7,446
May-11	202,074	23,423	252	225,749	51,653	6,625	10	58,288	13,363	2,241	2	15,606	14,183	1,711	5	15,899	6,511	902	1	7,414
Jun-11	201,880	23,487	248	225,615	51,490	6,631	10	58,131	13,259	2,236	2	15,497	14,063	1,705	5	15,773	6,500	894	1	7,395
Jul-11	202,925	23,509	251	226,685	51,530	6,585	10	58,125	13,242	2,248	2	15,492	14,003	1,705	5	15,713	6,426	900	1	7,327
Aug-11	202,898	23,493	252	226,643	51,334	6,581	10	57,925	13,235	2,238	2	15,475	13,926	1,702	5	15,633	6,400	902	1	7,303
Sep-11	203,576	23,496	249	227,321	51,253	6,579	10	57,842	13,155	2,239	2	15,396	13,948	1,707	5	15,660	6,398	899	10	7,307
Oct-11	204,181	23,561	252	227,994	51,542	6,585	10	58,137	13,344	2,245	2	15,591	14,133	1,718	5	15,856	6,489	904	7	7,400
Nov-11	205,122	23,516	252	228,890	52,014	6,641	10	58,665	13,475	2,272	2	15,749	14,263	1,740	5	16,008	6,540	900	5	7,445
Dec-11	205,811	23,594	253	229,648	52,285	6,674	10	58,969	13,539	2,277	2	15,818	14,407	1,756	5	16,168	6,583	929	1	7,513
Jan-12	207,852	23,843	246	231,940	53,554	6,713	10	60,276	14,110	2,296	2	16,408	14,574	1,791	5	16,370	6,737	923	1	7,661
Feb-12	207,860	23,852	250	231,962	53,450	6,734	11	60,195	14,130	2,295	2	16,428	14,603	1,820	5	16,428	6,721	922	1	7,644
Mar-12	207,759	23,854	248	231,861	53,353	6,697	10	60,060	14,111	2,343	2	16,456	14,548	1,820	5	16,374	6,679	923	1	7,603
Apr-12	207,296	24,031	254	231,581	53,691	6,745	10	60,447	14,171	2,312	2	16,485	14,580	1,794	5	16,380	6,653	912	1	7,566
May-12	207,165	24,034	254	231,452	53,524	6,736	10	60,270	14,134	2,313	2	16,449	14,514	1,777	5	16,295	6,621	912	1	7,534
Jun-12	206,986	24,099	250	231,315	53,355	6,742	10	60,107	14,024	2,308	2	16,334	14,391	1,771	5	16,166	6,610	904	1	7,515
Jul-12	208,037	24,122	253	232,412	53,396	6,695	10	60,101	14,006	2,320	2	16,329	14,329	1,771	5	16,105	6,534	910	1	7,445
Aug-12	208,010	24,106	254	232,369	53,193	6,691	10	59,894	13,999	2,310	2	16,311	14,251	1,767	5	16,023	6,508	912	1	7,421
Sep-12	208,705	24,109	251	233,064	53,109	6,689	10	59,808	13,914	2,311	2	16,227	14,273	1,773	5	16,051	6,506	909	10	7,425
Oct-12	209,325	24,175	254	233,754	53,408	6,695	10	60,114	14,114	2,317	2	16,433	14,462	1,784	5	16,251	6,599	914	7	7,520
Nov-12	210,290	24,129	254	234,673	53,898	6,752	10	60,660	14,253	2,345	2	16,600	14,595	1,807	5	16,407	6,650	910	5	7,565
Dec-12	210,996	24,199	255	235,450	54,178	6,786	10	60,974	14,321	2,350	2	16,673	14,743	1,824	5	16,571	6,684	939	1	7,624
Jan-13	213,150	24,449	248	237,846	55,425	6,807	10	62,242	14,880	2,356	2	17,238	15,017	1,841	5	16,863	6,849	933	1	7,783
Feb-13	213,158	24,458	252	237,868	55,318	6,829	11	62,158	14,901	2,355	2	17,258	15,048	1,871	5	16,922	6,832	932	1	7,765
Mar-13	213,055	24,460	250	237,765	55,217	6,792	10	62,019	14,881	2,403	2	17,287	14,990	1,871	5	16,866	6,790	933	1	7,724
Apr-13	212,580	24,641	256	237,477	55,568	6,840	10	62,418	14,945	2,372	2	17,319	15,023	1,845	5	16,872	6,764	922	1	7,686
May-13	212,445	24,644	256	237,346	55,394	6,831	10	62,235	14,906	2,373	2	17,281	14,954	1,826	5	16,786	6,731	922	1	7,654
Jun-13	212,241	24,712	252	237,205	55,219	6,837	10	62,066	14,790	2,367	2	17,159	14,828	1,820	5	16,652	6,719	914	1	7,634
Jul-13	213,340	24,735	255	238,330	55,262	6,790	10	62,062	14,771	2,380	2	17,153	14,765	1,820	5	16,590	6,643	920	1	7,564
Aug-13	213,312	24,718	256	238,286	55,052	6,786	10	61,847	14,763	2,370	2	17,135	14,683	1,817	5	16,505	6,616	922	1	7,539
Sep-13	214,025	24,721	253	238,999	54,965	6,783	10	61,759	14,674	2,371	2	17,047	14,707	1,822	5	16,534	6,614	919	10	7,543
Oct-13	214,661	24,790	256	239,706	55,275	6,790	10	62,075	14,885	2,377	2	17,264	14,902	1,834	5	16,740	6,708	924	7	7,639
Nov-13	215,650	24,742	256	240,648	55,781	6,847	10	62,639	15,031	2,406	2	17,438	15,039	1,857	5	16,901	6,761	920	5	7,686
Dec-13	216,374	24,814	257	241,445	56,072	6,881	10	62,963	15,102	2,411	2	17,515	15,191	1,874	5	17,070	6,805	950	1	7,756
Jan-14	218,547	25,055	251	243,852	57,407	6,902	10	64,319	15,650	2,415	2	18,068	15,348	1,875	5	17,228	6,961	938	1	7,900
Feb-14	218,555	25,064	255	243,875	57,296	6,924	11	64,230	15,673	2,414	2	18,089	15,379	1,905	5	17,289	6,944	937	1	7,882
Mar-14	218,450	25,066	253	243,769	57,191	6,886	10	64,087	15,652	2,464	2	18,118	15,322	1,905	5	17,232	6,901	938	1	7,840
Apr-14	217,962	25,252	259	243,473	57,554	6,935	10	64,500	15,718	2,431	2	18,152	15,355	1,878	5	17,238	6,874	922	1	7,802
May-14	217,825	25,255	259	243,339	57,375	6,926	10	64,310	15,677	2,433	2	18,112	15,285	1,859	5	17,149	6,841	927	1	7,769
Jun-14	217,615	25,324	255	243,194	57,193	6,932	10	64,136	15,555	2,427	2	17,985	15,156	1,853	5	17,013	6,829	919	1	7,749
Jul-14	218,742	25,348	258	244,348	57,238	6,884	10	64,132	15,535	2,440	2	17,978	15,091	1,853	5	16,949	6,751	925	1	7,677
Aug-14	218,713	25,331	259	244,302	57,020	6,880	10	63,910	15,527	2,429	2	17,959	15,008	1,850	5	16,863	6,724	927	1	7,652
Sep-14	219,444	25,334	256	245,033	56,930	6,878	10	63,818	15,433	2,430	2	17,866	15,032	1,855	5	16,892	6,722	924	10	7,656
Oct-14	220,096	25,404	259	245,759	57,251	6,894	10	64,145	15,655	2,437	2	18,094	15,231	1,862	5	17,098	6,811	929	7	7,754
Nov-14	221,110	25,355	259	246,724	57,776	6,943	10	64,728	15,809	2,466	2	18,277	15,371	1,891	5	17,267	6,871	925	5	7,801
Dec-14	221,853	25,429	260	247,542	58,077	6,977	10	65,064	15,884	2,472	2	18,358	15,526	1,908	5	17,440	6,916	955	1	7,872
Jan-15	223,945	25,660	254	249,859	59,499	6,996	10	66,505	16,421	2,487	2	18,909	15,680	1,908	5	17,593	7,072	943	1	8,017
Feb-15	223,954	25,670	258	249,882	59,383	7,019	11	66,413	16,444	2,485	2	18,931	15,711	1,939	5	17,655	7,055	942	1	8,998
Mar-15	223,845	25,672	256	249,774	59,275	6,980	10	66,266	16,422	2,537	2	18,961	15,653	1,939	5	17,597	7,012	943	1	7,956
Apr-15	223,346	25,862	262	249,471	59,652	7,030	10	66,692	16,492	2,503	2	18,997	15,687	1,911	5	17,603	6,985	932	1	7,918
May-15	223,205	25,866	262	249,332	59,465	7,021	10	66,496	16,449	2,504	2	18,955	15,615	1,892	5	17,513	6,951	932	1	7,884
Jun-15	222,990	25,936	258	249,185	59,277	7,027	10	66,315	16,321	2,499	2	18,822	15,483	1,886	5	17,374	6,939	924	1	7,864
Jul-15	224,145	25,961	261	250,366	59,324	6,978	10	66,312	16,300	2,512	2	18,814	15,417	1,886	5	17,308	6,860	930	1	7,791
Aug-15	224,115	25,943	262	250,320	59,098	6,974	10	66,082	16,291	2,501	2	18,794	15,333	1,883	5	17,220	6,832	932	1	7,765
Sep-15	224,864	25,946	259	251,069	59,005	6,972	10	65,987	16,193	2,502	2	18,697	15,357	1,888	5	17,250	6,830	929	10	7,769
Oct-15	225,532	26,018	262	251,812	59,327	6,978	10	66,326	16,426	2,509	2	18,936	15,580	1,900	5	17,486	6,927	936	7	7,868

Appendix 3.2 - Customer Forecast - Number by Region
Expected Case

	WA/ID				Medford				Roseburg				Klamath Falls				La Grande			
	WA/ID Res	WA/ID Com	WA/ID Firm Ind	WA/ID Total	MFR Res	MFR Com	MFR Firm Ind	MFR Total	ROS Res	ROS Com	ROS Firm Ind	ROS Total	KLA Res	KLA Com	KLA Firm Ind	KLA Total	LGD Res	LGD Com	LGD Firm Ind	LGD Total
Nov-15	226,571	25,968	262	252,802	59,881	7,038	10	66,928	16,587	2,539	2	19,128	15,704	1,925	5	17,633	6,982	930	5	7,916
Dec-15	227,332	26,044	263	253,639	60,193	7,073	10	67,275	16,666	2,545	2	19,212	15,862	1,942	5	17,809	7,028	960	1	7,988
Jan-16	229,342	26,266	257	255,864	61,590	7,086	10	68,686	17,191	2,546	2	19,739	16,012	1,941	5	17,959	7,184	948	1	8,133
Feb-16	229,351	26,276	261	255,888	61,471	7,108	11	68,590	17,215	2,545	2	19,762	16,044	1,973	5	18,022	7,167	947	1	8,115
Mar-16	229,240	26,279	259	255,777	61,359	7,070	10	68,439	17,192	2,597	2	19,791	15,984	1,973	5	17,962	7,122	948	1	8,072
Apr-16	228,728	26,473	265	255,467	61,749	7,120	10	68,879	17,265	2,563	2	19,831	16,019	1,945	5	17,969	7,095	937	1	8,033
May-16	228,584	26,476	265	255,325	61,556	7,110	10	68,676	17,220	2,564	2	19,787	15,946	1,926	5	17,877	7,061	937	1	7,998
Jun-16	228,364	26,549	261	255,174	61,361	7,117	10	68,488	17,086	2,559	2	19,647	15,811	1,919	5	17,735	7,049	929	1	7,979
Jul-16	229,546	26,574	264	256,384	61,409	7,067	10	68,487	17,064	2,572	2	19,639	15,744	1,919	5	17,667	6,968	935	1	7,904
Aug-16	229,516	26,556	265	256,336	61,176	7,063	10	68,249	17,055	2,561	2	19,618	15,657	1,915	5	17,578	6,940	937	1	7,878
Sep-16	230,283	26,559	262	257,104	61,079	7,061	10	68,150	16,952	2,562	2	19,516	15,682	1,921	5	17,608	6,938	934	10	7,882
Oct-16	230,967	26,632	265	257,865	61,423	7,067	10	68,501	17,196	2,569	2	19,767	15,890	1,933	5	17,828	7,037	939	7	7,983
Nov-16	232,032	26,582	265	258,878	61,986	7,128	10	69,123	17,365	2,600	2	19,966	16,036	1,958	5	17,999	7,092	935	5	8,032
Dec-16	232,811	26,658	266	259,736	62,309	7,163	10	69,482	17,447	2,605	2	20,055	16,198	1,976	5	18,179	7,139	965	1	8,105
Jan-17	234,735	26,871	259	261,864	63,572	7,170	10	70,752	17,961	2,605	2	20,568	16,344	1,975	5	18,324	7,296	953	1	8,250
Feb-17	234,744	26,881	263	261,888	63,449	7,193	11	70,652	17,986	2,604	2	20,593	16,376	2,007	5	18,388	7,278	962	1	8,252
Mar-17	234,630	26,884	261	261,775	63,333	7,154	10	70,497	17,962	2,658	2	20,622	16,316	2,007	5	18,327	7,233	953	1	8,188
Apr-17	234,107	27,083	267	261,457	63,735	7,205	10	70,950	18,039	2,623	2	20,664	16,351	1,978	5	18,334	7,206	942	1	8,149
May-17	233,959	27,086	267	261,312	63,536	7,195	10	70,741	17,992	2,624	2	20,618	16,277	1,959	5	18,240	7,170	942	1	8,113
Jun-17	233,734	27,160	263	261,157	63,336	7,201	10	70,547	17,852	2,618	2	20,472	16,139	1,952	5	18,096	7,153	938	1	8,093
Jul-17	234,944	27,186	266	262,396	63,385	7,151	10	70,546	17,829	2,632	2	20,463	16,070	1,952	5	18,027	7,077	940	1	8,018
Aug-17	234,913	27,167	267	262,347	63,144	7,147	10	70,301	17,819	2,621	2	20,442	15,982	1,948	5	17,935	7,048	942	1	7,991
Sep-17	235,698	27,171	264	263,132	63,044	7,145	10	70,199	17,712	2,622	2	20,336	16,007	1,954	5	17,966	7,046	939	10	7,995
Oct-17	236,398	27,246	267	263,911	63,400	7,151	10	70,561	17,966	2,629	2	20,597	16,219	1,967	5	18,186	7,146	944	7	8,097
Nov-17	237,488	27,194	267	264,949	63,980	7,212	10	71,202	18,143	2,660	2	20,805	16,368	1,992	5	18,365	7,202	940	5	8,147
Dec-17	238,285	27,272	268	265,826	64,314	7,248	10	71,572	18,229	2,666	2	20,897	16,534	2,010	5	18,549	7,250	970	1	8,221
Jan-18	240,226	27,497	262	267,985	65,443	7,254	10	72,707	18,731	2,653	2	21,386	16,676	2,008	5	18,689	7,408	958	1	8,367
Feb-18	240,236	27,507	266	268,009	65,317	7,277	11	72,605	18,758	2,652	2	21,411	16,709	2,041	5	18,755	7,380	967	1	8,348
Mar-18	240,120	27,510	264	267,893	65,198	7,237	10	72,445	18,732	2,707	2	21,441	16,647	2,041	5	18,693	7,344	958	1	8,304
Apr-18	239,584	27,713	270	267,567	65,612	7,289	10	72,911	18,812	2,671	2	21,485	16,683	2,011	5	18,700	7,316	947	1	8,264
May-18	239,432	27,717	270	267,419	65,407	7,279	10	72,696	18,763	2,672	2	21,437	16,607	1,992	5	18,604	7,280	947	1	8,228
Jun-18	239,203	27,793	266	267,261	65,200	7,286	10	72,496	18,617	2,666	2	21,285	16,467	1,985	5	18,456	7,268	938	1	8,208
Jul-18	240,441	27,819	269	268,528	65,251	7,235	10	72,496	18,593	2,680	2	21,276	16,396	1,985	5	18,386	7,185	945	1	8,131
Aug-18	240,409	27,800	270	268,478	65,003	7,231	10	72,244	18,584	2,668	2	21,254	16,306	1,981	5	18,292	7,186	947	1	8,134
Sep-18	241,212	27,803	267	269,282	64,900	7,229	10	72,139	18,471	2,670	2	21,143	16,332	1,987	5	18,324	7,154	944	10	8,108
Oct-18	241,929	27,880	270	270,079	65,266	7,235	10	72,511	18,737	2,677	2	21,415	16,549	2,000	5	18,563	7,286	949	7	8,252
Nov-18	243,044	27,827	270	271,141	65,864	7,297	10	73,171	18,921	2,709	2	21,632	16,701	2,025	5	18,731	7,313	945	5	8,263
Dec-18	243,860	27,907	271	272,039	66,207	7,333	10	73,550	19,010	2,715	2	21,727	16,869	2,044	5	18,918	7,364	925	1	8,290
Jan-19	245,719	28,122	265	274,107	67,205	7,333	10	74,548	19,501	2,700	2	22,204	17,008	2,041	5	19,054	7,520	963	1	8,484
Feb-19	245,729	28,133	270	274,132	67,075	7,356	11	74,442	19,529	2,699	2	22,230	17,042	2,074	5	19,121	7,502	962	1	8,466
Mar-19	245,610	28,136	268	274,013	66,953	7,316	10	74,279	19,503	2,755	2	22,260	16,978	2,074	5	19,058	7,455	963	1	8,419
Apr-19	245,062	28,344	274	273,680	67,378	7,368	10	74,756	19,586	2,719	2	22,307	17,015	2,045	5	19,065	7,427	952	1	8,379
May-19	244,907	28,347	274	273,529	67,167	7,358	10	74,535	19,535	2,720	2	22,257	16,938	2,025	5	18,967	7,390	952	1	8,343
Jun-19	244,672	28,425	270	273,367	66,955	7,365	10	74,330	19,383	2,714	2	22,099	16,794	2,018	5	18,817	7,378	943	1	8,322
Jul-19	245,938	28,452	273	274,663	67,007	7,314	10	74,331	19,358	2,728	2	22,088	16,723	2,018	5	18,745	7,294	950	1	8,245
Aug-19	245,906	28,432	274	274,612	66,752	7,309	10	74,072	19,348	2,716	2	22,066	16,631	2,014	5	18,650	7,284	952	1	8,237
Sep-19	246,727	28,436	271	275,434	66,647	7,307	10	73,964	19,231	2,717	2	21,950	16,657	2,020	5	18,682	7,262	949	10	8,221
Oct-19	247,461	28,514	274	276,249	67,023	7,314	10	74,347	19,507	2,725	2	22,234	16,878	2,033	5	18,916	7,368	954	7	8,326
Nov-19	248,601	28,460	274	277,335	67,637	7,376	10	75,023	19,699	2,758	2	22,458	17,033	2,059	5	19,097	7,423	950	5	8,378
Dec-19	249,436	28,542	275	278,254	67,989	7,413	10	75,412	19,792	2,764	2	22,558	17,205	2,078	5	19,288	7,472	980	1	8,453
Jan-20	251,410	28,772	266	280,448	68,966	7,422	10	76,398	20,271	2,748	2	23,021	17,340	2,075	5	19,420	7,632	968	1	8,601
Feb-20	251,420	28,783	271	280,474	68,833	7,446	11	76,290	20,300	2,747	2	23,049	17,374	2,108	5	19,488	7,613	967	1	8,582
Mar-20	251,299	28,785	269	280,353	68,707	7,405	10	76,123	20,273	2,804	2	23,078	17,310	2,108	5	19,423	7,566	968	1	8,535
Apr-20	250,738	28,998	275	280,012	69,144	7,458	10	76,612	20,359	2,767	2	23,128	17,347	2,078	5	19,431	7,537	957	1	8,495
May-20	250,579	29,002	275	279,857	68,928	7,448	10	76,386	20,306	2,768	2	23,076	17,268	2,058	5	19,331	7,500	957	1	8,458
Jun-20	250,339	29,081	271	279,691	68,710	7,455	10	76,175	20,148	2,762	2	22,912	17,122	2,051	5	19,178	7,488	948	1	8,437
Jul-20	251,635	29,109	274	281,017	68,764	7,403	10	76,176	20,122	2,776	2	22,901	17,049	2,051	5	19,105	7,402	955	1	8,358
Aug-20	251,601	29,089	275	280,965	68,502	7,398	10	75,910	20,112	2,764	2	22,878	16,955	2,047	5	19,007	7,372	957	1	8,330
Sep-20	252,442	29,093	272	281,806	68,394	7,396	10	75,800	19,990	2,765	2	22,757	16,982	2,053	5	19,040	7,370	954	10	8,334
Oct-20	253,192	29,173	275	282,640	68,780	7,403	10	76,192	20,277	2,773	2	23,052	17,207	2,066	5	19,279	7,475	969	7	8,448
Nov-20	254,359	29,117	275	283,751	69,409	7,466	10	76,885	20,476	2,806	2	23,284	17,366	2,093	5	19,463	7,534	955	5	8,493
Dec-20	255,213	29,201	276	284,691	69,771	7,503	10	77,284	20,574	2,812	2	23,388	17,541	2,112	5	19,658	7,583	985	1	8,570
Jan-21	257,202	29,423	269	286,895	70,728	7,506	10	78,244	21,041	2,796	2	23,839	17,672	2,108	5	19,785	7,743	973	1	8,718
Feb-21	257,212	29,435	274	286,921	70,591	7,530	11	78,132	21,071	2,794	2	23,868	17,707	2,142	5	19,854	7,725	972	1	8,698
Mar-21	257,088	29,437	272	286,797	70,462	7,489	10	77,961	21,043	2,852	2	23,897	17,641	2,142	5	19,788	7,677	973	1	8,651
Apr-21	256,515	29,655	278	286,448	70,910	7,543	10	78,462	21,133	2,814	2	23,949	17,680	2,112	5	19,796	7,648	962	1	8,610
May-21	256,352	29,659	278	286,289	70,688	7,532	10	78,230	21,078	2,816	2	23,895	17,599	2,091	5	19,695	7,610	962	1	8,573
Jun-21	256,106	29,740	274	286,120	70,465	7,539	10	78,014	20,914	2,809	2	23,725	17,450	2,083	5	19,538	7,597	953	1	8,552
Jul-21	257,432	29,768	277	287,477	70,520	7,487	10	78,017	20,887	2,824	2	23,713	17,376	2,083	5	19,464	7,511	960	1	8,471
Aug-21	257,398	29,747	278	287,423	70,252	7,482	10	77,744	20,876	2,812	2	23,690	17,280	2,080	5	19,365	7,480	962	1	8,443
Sep-21	258,258	29,751	275	288,284	70,141	7,480	10	77,631	20,750	2,813	2	23,565	17,307	2,086	5	19,398	7,478	959	10	8,447
Oct-21	259,025	29,834	278	289,137	70,536	7,487	10	78,033	21,048	2,821	2	23,870	17,537	2,099	5	19,641	7,584	964	7	8,555

Appendix 3.2 - Customer Forecast - Number by Region

Expected Case

	WA/ID				Medford				Roseburg				Klamath Falls				La Grande			
	WA/ID Res	WA/ID Com	WA/ID Firm Ind	WA/ID Total	MFR Res	MFR Com	MFR Firm Ind	MFR Total	ROS Res	ROS Com	ROS Firm Ind	ROS Total	KLA Res	KLA Com	KLA Firm Ind	KLA Total	LGD Res	LGD Com	LGD Firm Ind	LGD Total
Nov-21	260,219	29,777	278	290,274	71,182	7,550	10	78,743	21,254	2,855	2	24,111	17,698	2,126	5	19,829	7,644	960	5	8,609
Dec-21	261,093	29,863	279	291,235	71,553	7,588	10	79,151	21,355	2,861	2	24,218	17,877	2,146	5	20,028	7,694	991	1	8,686
Jan-22	263,093	30,074	271	293,438	72,489	7,590	10	80,090	21,812	2,843	2	24,657	18,004	2,141	5	20,150	7,855	979	1	8,835
Feb-22	263,103	30,085	276	293,464	72,349	7,614	11	79,974	21,843	2,842	2	24,686	18,039	2,176	5	20,220	7,836	977	1	8,815
Mar-22	262,976	30,088	274	293,338	72,217	7,573	10	79,800	21,813	2,901	2	24,716	17,972	2,176	5	20,153	7,788	979	1	8,767
Apr-22	262,390	30,311	280	292,980	72,676	7,627	10	80,313	21,906	2,862	2	24,771	18,012	2,145	5	20,162	7,758	967	1	8,726
May-22	262,223	30,314	280	292,818	72,449	7,617	10	80,075	21,849	2,864	2	24,715	17,929	2,124	5	20,058	7,720	967	1	8,688
Jun-22	261,972	30,397	276	292,645	72,220	7,624	10	79,854	21,679	2,857	2	24,538	17,778	2,116	5	19,899	7,707	958	1	8,666
Jul-22	263,328	30,426	279	294,033	72,276	7,571	10	79,857	21,651	2,872	2	24,526	17,702	2,116	5	19,823	7,619	965	1	8,585
Aug-22	262,293	30,405	280	292,978	72,001	7,566	10	79,577	21,640	2,860	2	24,502	17,605	2,113	5	19,722	7,588	967	1	8,556
Sep-22	264,173	30,409	277	294,858	71,888	7,564	10	79,461	21,509	2,861	2	24,372	17,632	2,119	5	19,756	7,586	964	10	8,560
Oct-22	264,958	30,493	280	295,731	72,293	7,571	10	79,874	21,818	2,869	2	24,689	17,866	2,137	5	20,004	7,694	969	7	8,670
Nov-22	266,179	30,435	280	296,894	72,955	7,635	10	80,600	22,032	2,903	2	24,937	18,031	2,160	5	20,195	7,754	965	5	8,724
Dec-22	267,073	30,523	281	297,877	73,335	7,673	10	81,018	22,137	2,910	2	25,049	18,213	2,180	5	20,397	7,805	996	1	8,802
Jan-23	269,084	30,723	274	300,082	74,251	7,674	10	81,935	22,582	2,891	2	25,474	18,336	2,175	5	20,516	7,967	984	1	8,952
Feb-23	269,095	30,735	279	300,109	74,107	7,699	11	81,817	22,614	2,889	2	25,505	18,372	2,210	5	20,587	7,948	982	1	8,931
Mar-23	268,965	30,738	276	299,979	73,972	7,657	10	81,639	22,583	2,949	2	25,535	18,304	2,210	5	20,519	7,899	984	1	8,883
Apr-23	269,365	30,965	283	299,613	74,442	7,711	10	82,163	22,680	2,910	2	25,592	18,344	2,178	5	20,527	7,868	972	1	8,841
May-23	268,195	30,969	283	299,448	74,209	7,701	10	81,920	22,621	2,911	2	25,534	18,260	2,157	5	20,422	7,830	972	1	8,803
Jun-23	267,938	31,054	279	299,270	73,975	7,708	10	81,693	22,445	2,905	2	25,352	18,106	2,149	5	20,260	7,817	963	1	8,781
Jul-23	269,325	31,083	282	300,690	74,032	7,655	10	81,697	22,416	2,921	2	25,338	18,028	2,149	5	20,183	7,728	970	1	8,698
Aug-23	269,289	31,062	283	300,634	73,751	7,650	10	81,411	22,404	2,908	2	25,314	17,929	2,146	5	20,080	7,697	972	1	8,669
Sep-23	270,189	31,066	280	301,534	73,634	7,648	10	81,292	22,269	2,909	2	25,179	17,957	2,152	5	20,114	7,694	968	10	8,673
Oct-23	270,992	31,152	283	302,426	74,050	7,655	10	81,714	22,589	2,917	2	25,507	18,196	2,166	5	20,366	7,804	974	7	8,784
Nov-23	272,240	31,092	283	303,616	74,728	7,720	10	82,457	22,810	2,952	2	25,764	18,363	2,194	5	20,562	7,865	970	5	8,839
Dec-23	273,155	31,182	284	304,621	75,117	7,758	10	82,885	22,919	2,958	2	25,879	18,549	2,214	5	20,767	7,917	1,001	1	8,919
Jan-24	275,076	31,374	275	306,725	76,012	7,753	10	83,775	23,352	2,950	2	26,304	18,668	2,208	5	20,881	8,079	989	1	9,069
Feb-24	275,087	31,386	280	306,752	75,865	7,778	11	83,654	23,385	2,949	2	26,336	18,705	2,244	5	20,953	8,059	988	1	9,048
Mar-24	274,954	31,389	277	306,620	75,727	7,735	10	83,472	23,354	3,010	2	26,365	18,635	2,244	5	20,884	8,009	989	1	8,999
Apr-24	274,340	31,621	284	306,248	76,209	7,791	10	84,009	23,452	2,970	2	26,425	18,676	2,212	5	20,893	7,979	977	1	8,957
May-24	274,167	31,625	284	306,076	75,970	7,780	10	83,760	23,392	2,971	2	26,365	18,591	2,190	5	20,786	7,940	977	1	8,918
Jun-24	273,904	31,711	280	305,895	75,730	7,787	10	83,527	23,210	2,966	2	26,177	18,433	2,182	5	20,621	7,926	968	1	8,896
Jul-24	275,321	31,741	283	307,345	75,789	7,733	10	83,532	23,180	2,981	2	26,163	18,355	2,182	5	20,542	7,836	975	1	8,812
Aug-24	275,285	31,719	284	307,288	75,500	7,728	10	83,238	23,168	2,967	2	26,137	18,254	2,178	5	20,437	7,805	977	1	8,782
Sep-24	276,205	31,723	281	308,209	75,381	7,726	10	83,117	23,028	2,969	2	25,999	18,283	2,185	5	20,472	7,802	973	10	8,786
Oct-24	277,026	31,811	284	309,121	75,806	7,733	10	83,549	23,359	2,977	2	26,337	18,525	2,199	5	20,729	7,913	979	7	8,899
Nov-24	278,302	31,750	284	310,337	76,501	7,799	10	84,309	23,588	3,012	2	26,603	18,695	2,227	5	20,928	7,975	975	5	8,955
Dec-24	279,237	31,842	285	311,365	76,899	7,836	10	84,747	23,700	3,019	2	26,721	18,884	2,248	5	21,137	8,028	1,006	1	9,035
Jan-25	281,067	32,049	278	313,394	77,774	7,832	10	85,616	24,012	2,998	2	27,012	19,000	2,241	5	21,246	8,191	994	1	9,185
Feb-25	281,078	32,061	283	313,422	77,623	7,857	11	85,491	24,046	2,996	2	27,044	19,037	2,278	5	21,320	8,171	993	1	9,165
Mar-25	280,943	32,064	280	313,287	77,482	7,814	10	85,306	24,014	3,058	2	27,074	18,967	2,278	5	21,249	8,120	994	1	9,115
Apr-25	280,316	32,301	287	312,905	77,974	7,870	10	85,854	24,116	3,018	2	27,136	19,008	2,245	5	21,258	8,089	982	1	9,072
May-25	280,139	32,305	287	312,731	77,730	7,859	10	85,599	24,053	3,019	2	27,075	18,921	2,223	5	21,149	8,050	982	1	9,032
Jun-25	279,870	32,394	283	312,546	77,485	7,866	10	85,361	23,866	3,012	2	26,881	18,761	2,215	5	20,981	8,036	973	1	9,010
Jul-25	281,318	32,424	286	314,028	77,545	7,812	10	85,367	23,836	3,029	2	26,866	18,681	2,215	5	20,901	7,945	979	1	8,925
Aug-25	281,281	32,402	287	313,970	77,250	7,807	10	85,067	23,823	3,015	2	26,840	18,578	2,211	5	20,795	7,913	982	1	8,896
Sep-25	282,221	32,406	284	314,911	77,128	7,805	10	84,943	23,679	3,016	2	26,697	18,608	2,218	5	20,831	7,910	978	10	8,899
Oct-25	283,059	32,496	287	315,843	77,563	7,812	10	85,385	24,019	3,025	2	27,046	18,854	2,232	5	21,092	8,023	984	7	9,013
Nov-25	284,364	32,434	287	317,085	78,273	7,878	10	86,162	24,255	3,061	2	27,318	19,028	2,261	5	21,294	8,086	979	5	9,070
Dec-25	285,319	32,528	288	318,135	78,681	7,917	10	86,608	24,370	3,068	2	27,440	19,220	2,282	5	21,507	8,139	1,011	1	9,151
Jan-26	287,059	32,724	280	320,063	79,425	7,911	10	87,346	24,672	3,045	2	27,719	19,332	2,275	5	21,611	8,303	999	1	9,302
Feb-26	287,070	32,737	285	320,092	79,271	7,936	11	87,218	24,707	3,044	2	27,753	19,370	2,312	5	21,686	8,283	988	1	9,271
Mar-26	286,931	32,740	282	319,953	79,127	7,893	10	87,030	24,674	3,107	2	27,783	19,298	2,312	5	21,614	8,231	999	1	9,231
Apr-26	286,291	32,982	289	319,563	79,629	7,949	10	87,589	24,779	3,066	2	27,847	19,340	2,279	5	21,623	8,200	987	1	9,188
May-26	286,110	32,986	289	319,386	79,381	7,938	10	87,329	24,715	3,067	2	27,784	19,252	2,256	5	21,513	8,160	987	1	9,147
Jun-26	285,836	32,876	285	319,196	79,130	7,946	10	87,086	24,522	3,060	2	27,588	19,089	2,248	5	21,342	8,146	978	1	9,125
Jul-26	287,315	33,107	288	320,710	79,191	7,890	10	87,092	24,491	3,077	2	27,570	19,007	2,248	5	21,261	8,053	984	1	9,039
Aug-26	287,277	33,085	289	320,651	78,890	7,886	10	86,786	24,478	3,063	2	27,543	18,903	2,244	5	21,152	8,021	987	1	9,008
Sep-26	288,237	33,089	286	321,612	78,766	7,883	10	86,659	24,330	3,064	2	27,396	18,933	2,251	5	21,189	8,018	983	10	9,011
Oct-26	289,093	33,180	289	322,563	79,210	7,890	10	87,110	24,680	3,073	2	27,754	19,184	2,265	5	21,454	8,132	989	7	9,128
Nov-26	290,426	33,117	289	323,832	79,935	7,957	10	87,903	24,922	3,109	2	28,033	19,360	2,294	5	21,660	8,196	984	5	9,186
Dec-26	291,401	33,213	290	324,905	80,352	7,997	10	88,359	25,040	3,116	2	28,159	19,506	2,315	5	21,826	8,250	1,016	1	9,267
Jan-27	292,951	33,399	283	326,633	81,076	7,990	10	89,076	25,332	3,093	2	28,427	19,664	2,308	5	21,977	8,414	1,004	1	9,419
Feb-27	292,962	33,412	288	326,662	80,920	8,015	11	88,946	25,368	3,091	2	28,462	19,702	2,345	5	22,052	8,384	1,008	1	9,393
Mar-27	292,821	33,415	285	326,521	80,772	7,971	10	88,754	25,334	3,155	2	28,491	19,629	2,345	5	21,980	8,342	1,004	1	9,347
Apr-27	292,167	33,862	292	326,122	81,285	8,028	10	89,323	25,442	3,114	2	28,558	19,672	2,312	5	21,989	8,310	992	1	9,303
May-27	291,982	33,667	292	325,942	81,031	8,017	10	89,058	25,376	3,115	2	28,493	19,582	2,289	5	21,876	8,270	992	1	9,262
Jun-27	291,702	33,759	288	325,749	80,776	8,025	10	88,810	25,178	3,108	2	28,288	19,417	2,281	5	21,703	8,286	983	1	9,270
Jul-27	293,212	33,790	291	327,294	80,838	7,969	10	88,817	25,146	3,125	2	28,273	19,334	2,281	5	21,620	8,162	989	1	9,152
Aug-27	293,173	33,787	292	327,233	80,531	7,964	10	88,505	25,133	3,111	2	28,246	19,227	2,277	5	21,510	8,129	992	1	9,121
Sep-27	294,153	33,772	289	328,213	80,403	7,962	10	88,375	24,981	3,112	2	28,095	19,258	2,284	5	21,547	8,126	988	10	9,124
Oct-27	295,027	33,865	292	329,184	80,857	7,969	10	88,836	25,340	3,121	2	28,462	19,513	2,299	5	21,817	8,242	994	7	9,243

Appendix 3.2 - Customer Forecast - Number by Region

Expected Case

	WA/ID				Medford				Roseburg				Klamath Falls				La Grande			
	WA/ID Res	WA/ID Com	WA/ID Firm Ind	WA/ID Total	MFR Res	MFR Com	MFR Firm Ind	MFR Total	ROS Res	ROS Com	ROS Firm Ind	ROS Total	KLA Res	KLA Com	KLA Firm Ind	KLA Total	LGD Res	LGD Com	LGD Firm Ind	LGD Total
Nov-27	296,387	33,800	292	330,479	81,597	8,037	10	89,644	25,589	3,158	2	28,749	19,693	2,328	5	22,026	8,306	989	5	9,301
Dec-27	297,382	33,898	293	331,574	82,022	8,077	10	90,109	25,710	3,165	2	28,877	19,892	2,349	5	22,246	8,361	1,021	1	9,383
Jan-28	298,842	34,075	285	333,202	82,728	8,068	10	90,806	25,992	3,140	2	29,135	19,996	2,341	5	22,342	8,526	1,009	1	9,536
Feb-28	299,454	34,088	290	333,232	82,568	8,094	11	90,673	26,029	3,139	2	29,170	20,035	2,379	5	22,419	8,506	1,008	1	9,514
Mar-28	298,710	34,091	287	333,088	82,417	8,050	10	90,477	25,994	3,204	2	29,200	19,961	2,379	5	22,345	8,453	1,009	1	9,463
Apr-28	298,045	34,343	294	332,661	82,841	8,188	10	91,056	26,105	3,161	2	29,269	20,004	2,345	5	22,354	8,421	997	1	9,418
May-28	297,855	34,347	294	332,496	82,681	8,097	10	90,788	26,037	3,163	2	29,202	19,913	2,322	5	22,240	8,380	997	1	9,377
Jun-28	297,668	34,441	290	332,399	82,420	8,106	10	90,534	25,835	3,156	2	28,992	19,744	2,314	5	22,063	8,366	988	1	9,354
Jul-28	299,109	34,474	293	333,876	82,485	8,048	10	90,542	25,801	3,173	2	28,976	19,660	2,314	5	21,979	8,270	994	1	9,266
Aug-28	299,080	34,450	294	333,814	82,171	8,049	10	90,224	25,788	3,159	2	28,948	19,552	2,310	5	21,867	8,237	987	1	9,224
Sep-28	300,069	34,454	291	334,814	82,041	8,040	10	90,091	25,632	3,160	2	28,794	19,583	2,317	5	21,905	8,234	993	10	9,237
Oct-28	300,389	34,550	294	335,805	82,504	8,049	10	90,561	26,000	3,168	2	29,171	19,843	2,332	5	22,179	8,351	993	7	9,357
Nov-28	302,347	34,484	294	337,126	83,259	8,116	10	91,385	26,255	3,207	2	29,464	20,025	2,362	5	22,392	8,417	994	5	9,416
Dec-28	303,340	34,593	295	338,242	83,693	8,126	10	91,829	26,360	3,214	2	29,586	20,727	2,383	5	22,616	8,472	1,026	1	9,500
Jan-29	304,634	34,725	288	339,647	84,379	8,147	10	92,536	26,652	3,200	2	29,854	20,328	2,375	5	22,707	8,638	1,014	1	9,653
Feb-29	304,440	34,739	293	339,677	84,216	8,173	11	92,400	26,690	3,198	2	29,891	20,368	2,413	5	22,786	8,617	1,013	1	9,631
Mar-29	304,499	34,742	290	339,531	84,062	8,129	10	92,201	26,654	3,264	2	29,921	20,292	2,413	5	22,710	8,564	1,014	1	9,579
Apr-29	303,823	34,608	297	339,116	84,596	8,187	10	92,793	26,768	3,221	2	29,992	20,338	2,379	5	22,720	8,531	1,002	1	9,534
May-29	303,628	35,003	297	338,928	84,332	8,176	10	92,517	26,698	3,223	2	29,923	20,243	2,355	5	22,604	8,489	1,002	1	9,492
Jun-29	303,305	35,099	293	338,727	84,064	8,193	10	92,259	26,491	3,215	2	29,708	20,072	2,347	5	22,424	8,475	992	1	9,469
Jul-29	304,906	35,132	296	340,334	84,131	8,126	10	92,267	26,457	3,233	2	29,691	19,987	2,347	5	22,339	8,379	999	1	9,379
Aug-29	305,595	35,108	297	340,371	83,911	8,322	10	92,242	26,643	3,218	2	29,863	19,977	2,348	5	22,225	8,346	1,000	1	9,347
Sep-29	305,884	35,112	294	341,290	83,679	8,119	10	91,808	26,283	3,220	2	29,505	19,908	2,350	5	22,263	8,342	998	10	9,350
Oct-29	306,793	35,209	287	342,300	84,151	8,136	10	92,287	26,680	3,228	2	29,891	20,172	2,366	5	22,542	8,461	1,004	7	9,472
Nov-29	308,207	35,142	297	343,647	84,921	8,195	10	93,127	26,922	3,267	2	30,191	20,358	2,395	5	22,758	8,527	999	5	9,532
Dec-29	309,249	35,244	299	344,785	85,396	8,226	10	93,610	27,880	3,294	2	30,327	20,963	2,417	5	22,885	8,589	1,002	1	9,614

Appendix 3.2 - Customer Forecast - Number by Region
Low Growth

	WA/ID				Medford				Roseburg				Klamath Falls				La Grande			
	WA/ID Res	WA/ID Com	WA/ID Firm Ind	WA/ID Total	MFR Res	MFR Com	MFR Firm Ind	MFR Total	ROS Res	ROS Com	ROS Firm Ind	ROS Total	KLA Res	KLA Com	KLA Firm Ind	KLA Total	LGD Res	LGD Com	LGD Firm Ind	LGD Total
Nov-09	199,086	22,553	246	221,884	50,231	6,426	10	56,667	13,043	2,146	2	15,191	13,775	1,618	5	15,398	6,423	879	5	7,307
Dec-09	199,433	22,587	247	222,266	50,366	6,442	10	56,818	13,075	2,149	2	15,225	13,846	1,626	5	15,477	6,444	893	1	7,338
Jan-10	199,656	22,683	245	222,583	50,513	6,456	10	56,979	13,100	2,153	2	15,254	13,888	1,635	5	15,528	6,477	887	1	7,366
Feb-10	199,660	22,687	246	222,593	50,464	6,466	11	56,941	13,109	2,152	2	15,263	13,902	1,649	5	15,556	6,469	887	1	7,357
Mar-10	199,610	22,688	245	222,544	50,417	6,448	10	56,875	13,100	2,175	2	15,278	13,875	1,649	5	15,530	6,449	887	1	7,338
Apr-10	199,383	22,775	248	222,406	50,530	6,472	10	57,012	13,104	2,160	2	15,266	13,866	1,637	5	15,508	6,437	882	1	7,320
May-10	199,318	22,777	248	222,343	50,449	6,467	10	56,927	13,086	2,161	2	15,249	13,834	1,628	5	15,467	6,421	882	1	7,304
Jun-10	199,221	22,809	246	222,276	50,368	6,470	10	56,849	13,035	2,158	2	15,195	13,775	1,625	5	15,405	6,416	878	1	7,295
Jul-10	199,495	22,820	248	222,563	50,339	6,447	10	56,796	13,026	2,164	2	15,192	13,745	1,625	5	15,376	6,379	881	1	7,261
Aug-10	199,482	22,812	248	222,542	50,241	6,445	10	56,697	13,023	2,159	2	15,184	13,707	1,624	5	15,336	6,366	882	1	7,249
Sep-10	199,823	22,814	247	222,883	50,201	6,444	10	56,656	12,983	2,160	2	15,145	13,718	1,626	5	15,349	6,365	881	10	7,256
Oct-10	200,128	22,847	248	223,222	50,295	6,447	10	56,752	13,052	2,163	2	15,217	13,785	1,632	5	15,421	6,410	883	7	7,300
Nov-10	200,601	22,824	248	223,673	50,529	6,475	10	57,015	13,117	2,176	2	15,295	13,849	1,643	5	15,497	6,435	881	5	7,321
Dec-10	200,948	22,858	249	224,055	50,664	6,492	10	57,165	13,149	2,179	2	15,330	13,920	1,651	5	15,576	6,457	895	1	7,353
Jan-11	201,278	22,966	246	224,490	50,861	6,508	10	57,379	13,175	2,189	2	15,365	13,962	1,669	5	15,635	6,502	892	1	7,395
Feb-11	201,282	22,971	248	224,501	50,811	6,519	11	57,340	13,184	2,188	2	15,374	13,976	1,682	5	15,663	6,494	892	1	7,387
Mar-11	201,232	22,972	247	224,451	50,764	6,501	10	57,275	13,175	2,211	2	15,388	13,949	1,682	5	15,637	6,474	892	1	7,367
Apr-11	201,085	23,059	250	224,314	50,927	6,524	10	57,461	13,203	2,196	2	15,402	13,965	1,670	5	15,640	6,462	887	1	7,350
May-11	200,940	23,061	250	224,251	50,846	6,520	10	57,376	13,186	2,197	2	15,385	13,933	1,662	5	15,599	6,446	887	1	7,334
Jun-11	200,843	23,093	248	224,184	50,765	6,523	10	57,298	13,134	2,194	2	15,331	13,873	1,659	5	15,537	6,440	883	1	7,324
Jul-11	201,369	23,104	250	224,722	50,785	6,500	10	57,295	13,126	2,200	2	15,328	13,844	1,659	5	15,507	6,404	886	1	7,291
Aug-11	201,355	23,096	250	224,701	50,688	6,498	10	57,196	13,122	2,195	2	15,320	13,806	1,657	5	15,468	6,391	887	1	7,279
Sep-11	201,696	23,097	249	225,043	50,648	6,497	10	57,155	13,082	2,196	2	15,280	13,817	1,660	5	15,481	6,390	885	10	7,285
Oct-11	202,001	23,130	250	225,382	50,791	6,500	10	57,301	13,176	2,199	2	15,377	13,908	1,666	5	15,578	6,435	888	7	7,330
Nov-11	202,475	23,108	250	225,833	51,026	6,528	10	57,563	13,242	2,212	2	15,456	13,972	1,676	5	15,653	6,460	886	5	7,351
Dec-11	202,822	23,142	251	226,214	51,160	6,544	10	57,714	13,274	2,215	2	15,490	14,043	1,684	5	15,732	6,481	900	1	7,382
Jan-12	203,849	23,273	247	227,369	51,790	6,563	10	58,363	13,558	2,225	2	15,784	14,126	1,702	5	15,832	6,557	897	1	7,456
Feb-12	203,853	23,278	249	227,380	51,738	6,574	11	58,323	13,568	2,224	2	15,794	14,140	1,716	5	15,861	6,549	897	1	7,447
Mar-12	203,803	23,279	248	227,330	51,690	6,556	10	58,256	13,558	2,248	2	15,808	14,113	1,716	5	15,834	6,529	897	1	7,427
Apr-12	203,570	23,368	251	227,189	51,859	6,580	10	58,448	13,588	2,232	2	15,823	14,129	1,703	5	15,837	6,516	892	1	7,409
May-12	203,503	23,370	251	227,124	51,775	6,575	10	58,360	13,570	2,233	2	15,805	14,096	1,694	5	15,795	6,500	892	1	7,393
Jun-12	203,403	23,403	249	227,055	51,691	6,578	10	58,279	13,515	2,230	2	15,747	14,035	1,691	5	15,732	6,494	888	1	7,383
Jul-12	203,943	23,414	251	227,608	51,712	6,555	10	58,276	13,506	2,237	2	15,745	14,005	1,691	5	15,701	6,457	891	1	7,349
Aug-12	203,929	23,406	251	227,586	51,611	6,563	10	58,173	13,502	2,231	2	15,736	13,966	1,690	5	15,661	6,444	892	1	7,337
Sep-12	204,279	23,407	250	227,936	51,569	6,552	10	58,131	13,460	2,232	2	15,694	13,977	1,692	5	15,674	6,443	890	10	7,344
Oct-12	204,591	23,441	251	228,283	51,718	6,555	10	58,283	13,560	2,235	2	15,797	14,071	1,698	5	15,774	6,489	893	7	7,389
Nov-12	205,077	23,418	251	228,746	51,961	6,583	10	58,554	13,629	2,249	2	15,880	14,136	1,709	5	15,851	6,515	891	5	7,410
Dec-12	205,432	23,453	252	229,137	52,100	6,600	10	58,710	13,662	2,252	2	15,916	14,209	1,718	5	15,932	6,536	905	1	7,442
Jan-13	206,517	23,580	248	230,344	52,719	6,611	10	59,339	13,941	2,255	2	16,197	14,344	1,727	5	16,076	6,612	902	1	7,516
Feb-13	206,521	23,584	250	230,356	52,666	6,621	11	59,287	13,951	2,254	2	16,207	14,359	1,741	5	16,105	6,604	902	1	7,507
Mar-13	206,469	23,585	249	230,304	52,615	6,603	10	59,228	13,941	2,278	2	16,222	14,331	1,741	5	16,077	6,583	902	1	7,487
Apr-13	206,230	23,627	252	230,159	52,790	6,627	10	59,427	13,973	2,263	2	16,238	14,347	1,728	5	16,080	6,571	897	1	7,468
May-13	206,162	23,679	252	230,093	52,703	6,622	10	59,336	13,954	2,263	2	16,219	14,313	1,719	5	16,037	6,554	897	1	7,452
Jun-13	206,060	23,713	250	230,022	52,817	6,625	10	59,252	13,886	2,260	2	16,158	14,251	1,716	5	15,972	6,549	893	1	7,442
Jul-13	206,613	23,724	252	230,589	52,638	6,602	10	59,250	13,886	2,267	2	16,155	14,220	1,716	5	15,941	6,511	896	1	7,408
Aug-13	206,588	23,716	252	230,556	52,533	6,600	10	59,143	13,883	2,261	2	16,146	14,180	1,714	5	15,899	6,498	897	1	7,395
Sep-13	206,957	23,717	251	230,925	52,490	6,599	10	59,099	13,838	2,262	2	16,102	14,191	1,717	5	15,913	6,497	895	10	7,402
Oct-13	207,278	23,752	252	231,282	52,644	6,602	10	59,256	13,943	2,265	2	16,210	14,287	1,723	5	16,015	6,543	898	7	7,448
Nov-13	207,776	23,728	252	231,756	52,895	6,631	10	59,536	14,016	2,280	2	16,297	14,355	1,734	5	16,094	6,569	896	5	7,470
Dec-13	208,140	23,764	253	232,157	53,040	6,648	10	59,697	14,051	2,282	2	16,335	14,430	1,743	5	16,178	6,591	910	1	7,502
Jan-14	209,234	23,886	250	233,370	53,702	6,658	10	60,370	14,324	2,284	2	16,610	14,508	1,743	5	16,256	6,668	905	1	7,573
Feb-14	209,239	23,891	252	233,381	53,847	6,669	11	60,526	14,335	2,284	2	16,621	14,523	1,758	5	16,286	6,659	904	1	7,564
Mar-14	209,185	23,892	251	233,328	53,595	6,650	10	60,255	14,325	2,309	2	16,636	14,495	1,758	5	16,258	6,638	905	1	7,544
Apr-14	208,940	23,986	254	233,180	53,776	6,674	10	60,460	14,358	2,293	2	16,652	14,511	1,745	5	16,261	6,625	899	1	7,525
May-14	208,871	23,988	254	233,112	53,686	6,670	10	60,366	14,337	2,293	2	16,633	14,477	1,736	5	16,217	6,608	899	1	7,509
Jun-14	208,765	24,022	252	233,039	53,597	6,673	10	60,279	14,277	2,290	2	16,569	14,413	1,732	5	16,150	6,603	895	1	7,499
Jul-14	209,333	24,034	253	233,620	53,619	6,649	10	60,277	14,267	2,297	2	16,566	14,381	1,732	5	16,118	6,564	898	1	7,464
Aug-14	209,318	24,026	254	233,597	53,511	6,647	10	60,167	14,263	2,291	2	16,556	14,340	1,731	5	16,075	6,551	899	1	7,451
Sep-14	209,686	24,027	252	233,965	53,466	6,646	10	60,122	14,216	2,292	2	16,510	14,352	1,733	5	16,090	6,550	898	10	7,458
Oct-14	210,014	24,063	254	234,331	53,625	6,649	10	60,284	14,326	2,295	2	16,624	14,450	1,739	5	16,194	6,597	900	7	7,504
Nov-14	210,525	24,038	254	234,817	53,885	6,678	10	60,573	14,403	2,310	2	16,715	14,519	1,751	5	16,275	6,624	898	5	7,527
Dec-14	210,899	24,075	254	235,228	54,035	6,696	10	60,740	14,440	2,313	2	16,755	14,596	1,760	5	16,361	6,646	913	1	7,560
Jan-15	211,952	24,193	251	236,396	54,741	6,705	10	61,455	14,707	2,320	2	17,029	14,672	1,760	5	16,436	6,723	907	1	7,631
Feb-15	212,957	24,198	253	236,407	54,684	6,716	11	61,410	14,719	2,320	2	17,041	14,687	1,775	5	16,467	6,714	907	1	7,622
Mar-15	211,902	24,199	252	236,353	54,630	6,697	10	61,337	14,708	2,346	2	17,055	14,658	1,775	5	16,438	6,693	907	1	7,601
Apr-15	211,651	24,295	255	236,201	54,817	6,722	10	61,548	14,743	2,329	2	17,073	14,675	1,761	5	16,441	6,680	902	1	7,582
May-15	211,580	24,296	255	236,131	54,724	6,717	10	61,451	14,721	2,329	2	17,053	14,640	1,752	5	16,397	6,663	902	1	7,565
Jun-15	211,472	24,332	253	236,057	54,591	6,720	10	61,361	14,653	2,326	2	16,986	14,574	1,749	5	16,328	6,652	898	1	7,551
Jul-15	212,053	24,345	255	236,652	54,654	6,696	10	61,360	14,647	2,333	2	16,982	14,542	1,749	5	16,296	6,618	901	1	7,520
Aug-15	212,028	24,336	255	236,629	54,542	6,694	10	61,246	14,643	2,328	2	16,972	14,500	1,747	5	16,252	6,604	902	1	7,508
Sep-15	212,415	24,337	254	237,006	54,496	6,693	10	61,198	14,594	2,328	2	16,924	14,512	1,750	5	16,267	6,603	900	10	7,513
Oct-15	212,751	24,374	255	237,380	54,661	6,696	10	61,367	14,710	2,332	2	17,043	14,613	1,756	5	16,374	6,651	903	7	7,561

Appendix 3.2 - Customer Forecast - Number by Region
Low Growth

	WA/ID				Medford				Roseburg				Klamath Falls				La Grande			
	WA/ID Res	WA/ID Com	WA/ID Firm Ind	WA/ID Total	MFR Res	MFR Com	MFR Firm Ind	MFR Total	ROS Res	ROS Com	ROS Firm Ind	ROS Total	KLA Res	KLA Com	KLA Firm Ind	KLA Total	LGD Res	LGD Com	LGD Firm Ind	LGD Total
Nov-15	213,275	24,348	255	237,878	54,930	6,725	10	61,666	14,790	2,347	2	17,139	14,683	1,768	5	16,456	6,678	901	5	7,584
Dec-15	213,658	24,386	256	238,300	55,085	6,743	10	61,838	14,829	2,349	2	17,181	14,761	1,777	5	16,543	6,701	915	1	7,617
Jan-16	214,670	24,499	252	239,421	55,779	6,749	10	62,538	15,090	2,350	2	17,442	14,836	1,776	5	16,617	6,778	910	1	7,689
Feb-16	214,674	24,504	255	239,433	55,720	6,761	11	62,491	15,103	2,350	2	17,454	14,851	1,792	5	16,648	6,769	909	1	7,680
Mar-16	214,618	24,505	254	239,377	55,664	6,741	10	62,416	15,091	2,376	2	17,469	14,822	1,792	5	16,619	6,747	910	1	7,658
Apr-16	214,361	24,604	257	239,221	55,858	6,766	10	62,634	15,128	2,359	2	17,488	14,839	1,778	5	16,622	6,734	904	1	7,639
May-16	214,288	24,605	257	239,150	55,762	6,762	10	62,533	15,105	2,359	2	17,466	14,803	1,768	5	16,576	6,717	904	1	7,622
Jun-16	214,177	24,642	255	239,074	55,665	6,765	10	62,440	15,038	2,356	2	17,397	14,736	1,765	5	16,506	6,711	900	1	7,612
Jul-16	214,773	24,655	256	239,683	55,689	6,740	10	62,439	15,028	2,363	2	17,393	14,703	1,765	5	16,473	6,671	903	1	7,576
Aug-16	214,757	24,645	257	239,660	55,573	6,738	10	62,321	15,023	2,358	2	17,383	14,660	1,763	5	16,429	6,658	904	1	7,563
Sep-16	215,143	24,647	255	240,046	55,525	6,737	10	62,272	14,972	2,358	2	17,332	14,672	1,766	5	16,444	6,657	903	10	7,569
Oct-16	215,488	24,684	257	240,429	55,696	6,740	10	62,446	15,093	2,362	2	17,457	14,775	1,772	5	16,552	6,705	905	7	7,617
Nov-16	216,024	24,659	257	240,939	55,975	6,770	10	62,756	15,177	2,377	2	17,556	14,847	1,785	5	16,637	6,732	903	5	7,641
Dec-16	216,416	24,698	257	241,371	56,136	6,788	10	62,934	15,218	2,380	2	17,600	14,927	1,794	5	16,726	6,756	918	1	7,674
Jan-17	217,385	24,805	253	242,443	56,763	6,791	10	63,564	15,474	2,380	2	17,856	14,999	1,793	5	16,797	6,833	912	1	7,746
Feb-17	217,390	24,810	256	242,486	56,702	6,803	11	63,515	15,486	2,379	2	17,866	15,015	1,809	5	16,829	6,824	912	1	7,737
Mar-17	217,332	24,812	255	242,399	56,644	6,783	10	63,437	15,474	2,407	2	17,883	14,985	1,809	5	16,799	6,802	912	1	7,715
Apr-17	217,069	24,912	258	242,239	56,844	6,809	10	63,662	15,512	2,389	2	17,903	15,003	1,794	5	16,802	6,789	907	1	7,696
May-17	216,994	24,914	258	242,166	56,745	6,804	10	63,559	15,489	2,389	2	17,880	14,966	1,785	5	16,756	6,771	907	1	7,679
Jun-17	216,881	24,951	256	242,088	56,646	6,807	10	63,462	15,419	2,387	2	17,808	14,898	1,781	5	16,684	6,765	902	1	7,669
Jul-17	217,490	24,964	257	242,712	56,670	6,782	10	63,462	15,408	2,394	2	17,803	14,864	1,781	5	16,650	6,725	906	1	7,632
Aug-17	217,475	24,955	258	242,687	56,550	6,780	10	63,340	15,403	2,388	2	17,793	14,829	1,780	5	16,605	6,711	907	1	7,618
Sep-17	217,870	24,957	256	243,083	56,501	6,779	10	63,289	15,350	2,388	2	17,740	14,833	1,783	5	16,620	6,710	905	10	7,625
Oct-17	218,223	24,995	258	243,475	56,677	6,782	10	63,469	15,426	2,392	2	17,870	14,938	1,789	5	16,732	6,739	908	7	7,674
Nov-17	218,771	24,968	258	243,997	56,965	6,812	10	63,788	15,564	2,408	2	17,974	15,011	1,801	5	16,818	6,787	906	5	7,698
Dec-17	219,173	25,008	258	244,439	57,131	6,830	10	63,971	15,607	2,411	2	18,019	15,093	1,810	5	16,908	6,810	920	1	7,732
Jan-18	220,150	25,122	255	245,527	57,692	6,833	10	64,535	15,857	2,404	2	18,263	15,163	1,809	5	16,978	6,888	915	1	7,804
Feb-18	220,155	25,127	257	245,539	57,629	6,845	11	64,484	15,870	2,403	2	18,275	15,180	1,826	5	17,010	6,889	914	1	7,795
Mar-18	220,096	25,128	256	245,481	57,570	6,825	10	64,405	15,857	2,431	2	18,290	15,149	1,826	5	16,979	6,857	915	1	7,773
Apr-18	219,927	25,231	259	245,317	57,775	6,851	10	64,636	15,897	2,413	2	18,312	15,167	1,811	5	16,983	6,849	909	1	7,753
May-18	219,750	25,233	259	245,243	57,673	6,846	10	64,529	15,873	2,414	2	18,288	15,129	1,801	5	16,935	6,825	909	1	7,736
Jun-18	219,635	25,271	257	245,163	57,571	6,849	10	64,430	15,800	2,411	2	18,213	15,060	1,798	5	16,863	6,819	906	1	7,726
Jul-18	220,258	25,285	259	245,801	57,596	6,824	10	64,430	15,788	2,418	2	18,208	15,025	1,798	5	16,828	6,779	908	1	7,688
Aug-18	220,242	25,275	259	245,776	57,473	6,822	10	64,305	15,782	2,412	2	18,197	14,981	1,796	5	16,782	6,764	909	1	7,679
Sep-18	220,646	25,277	258	246,181	57,422	6,821	10	64,253	15,727	2,412	2	18,142	14,993	1,799	5	16,797	6,763	907	10	7,681
Oct-18	221,007	25,316	259	246,582	57,604	6,824	10	64,437	15,889	2,416	2	18,277	15,100	1,805	5	16,911	6,813	910	7	7,730
Nov-18	221,569	25,289	259	247,117	57,900	6,855	10	64,765	15,951	2,432	2	18,385	15,175	1,818	5	16,998	6,841	908	5	7,754
Dec-18	221,980	25,329	280	247,589	58,071	6,873	10	64,953	15,996	2,435	2	18,433	15,299	1,827	5	17,081	6,855	909	1	7,765
Jan-19	222,916	25,438	257	248,611	58,566	6,872	10	65,448	16,240	2,428	2	18,670	15,327	1,826	5	17,158	6,944	917	1	7,862
Feb-19	222,920	25,444	259	248,623	58,501	6,684	11	65,196	16,264	2,427	2	18,693	15,344	1,842	5	17,191	6,936	912	1	7,852
Mar-19	222,861	25,445	258	248,564	58,441	6,864	10	65,315	16,241	2,455	2	18,698	15,312	1,842	5	17,160	6,912	917	1	7,830
Apr-19	222,896	25,560	261	248,396	58,652	6,890	10	65,552	16,282	2,437	2	18,721	15,331	1,828	5	17,163	6,899	912	1	7,810
May-19	222,507	25,552	261	248,320	58,547	6,885	10	65,442	16,257	2,438	2	18,696	15,292	1,818	5	17,115	6,880	912	1	7,792
Jun-19	222,380	25,591	259	248,239	58,442	6,888	10	65,341	16,196	2,435	2	18,617	15,222	1,814	5	17,041	6,874	907	1	7,782
Jul-19	223,026	25,605	261	248,892	58,468	6,863	10	65,341	16,169	2,442	2	18,612	15,186	1,814	5	17,005	6,832	910	1	7,744
Aug-19	223,010	25,595	261	248,866	58,341	6,861	10	65,212	16,163	2,436	2	18,601	15,141	1,812	5	16,958	6,818	912	1	7,730
Sep-19	223,423	25,597	260	249,280	58,289	6,860	10	65,159	16,105	2,436	2	18,544	15,154	1,815	5	16,974	6,816	910	10	7,736
Oct-19	223,792	25,637	261	249,690	58,476	6,863	10	65,349	16,243	2,440	2	18,685	15,263	1,822	5	17,090	6,867	913	7	7,787
Nov-19	224,367	25,609	261	250,237	58,780	6,894	10	65,684	16,338	2,457	2	18,797	15,340	1,835	5	17,179	6,896	910	5	7,811
Dec-19	224,787	25,651	262	250,700	58,955	6,912	10	65,877	16,385	2,460	2	18,846	15,424	1,844	5	17,274	6,920	926	1	7,847
Jan-20	225,781	25,767	257	251,805	59,440	6,917	10	66,367	16,623	2,452	2	19,077	15,491	1,842	5	17,339	6,999	920	1	7,919
Feb-20	225,786	25,772	260	251,818	59,374	6,929	11	66,313	16,637	2,451	2	19,091	15,508	1,859	5	17,372	6,990	919	1	7,910
Mar-20	225,725	25,774	259	251,757	59,312	6,909	10	66,230	16,624	2,480	2	19,105	15,476	1,859	5	17,340	6,966	920	1	7,887
Apr-20	225,443	25,881	262	251,586	59,528	6,935	10	66,473	16,667	2,461	2	19,130	15,495	1,844	5	17,344	6,952	914	1	7,867
May-20	225,363	25,883	262	251,508	59,421	6,930	10	66,361	16,640	2,462	2	19,104	15,456	1,834	5	17,295	6,934	914	1	7,849
Jun-20	225,242	25,923	260	251,425	59,313	6,933	10	66,256	16,562	2,459	2	19,022	15,363	1,831	5	17,219	6,928	910	1	7,838
Jul-20	225,894	25,937	261	252,093	59,340	6,907	10	66,257	16,549	2,466	2	19,017	15,347	1,831	5	17,183	6,886	913	1	7,800
Aug-20	225,877	25,927	262	252,066	59,210	6,905	10	66,125	16,544	2,460	2	19,005	15,301	1,829	5	17,135	6,871	914	1	7,786
Sep-20	226,301	25,929	260	252,490	59,156	6,904	10	66,070	16,483	2,460	2	18,946	15,314	1,832	5	17,151	6,870	912	10	7,792
Oct-20	226,578	25,970	262	252,910	59,348	6,907	10	66,265	16,526	2,464	2	19,092	15,426	1,838	5	17,269	6,921	915	7	7,843
Nov-20	227,266	25,942	262	253,469	59,660	6,939	10	66,609	16,725	2,481	2	19,208	15,504	1,851	5	17,360	6,950	913	5	7,868
Dec-20	227,696	25,984	262	253,943	59,840	6,957	10	66,807	16,775	2,484	2	19,260	15,590	1,861	5	17,456	6,975	928	1	7,904
Jan-21	228,697	26,096	259	255,053	60,315	6,959	10	67,284	17,006	2,476	2	19,484	15,655	1,859	5	17,519	7,054	922	1	7,977
Feb-21	228,702	26,102	261	255,066	60,247	6,971	11	67,228	17,021	2,475	2	19,498	15,672	1,876	5	17,553	7,045	922	1	7,967
Mar-21	228,640	26,103	260	255,003	60,183	6,950	10	67,143	17,007	2,504	2	19,513	15,640	1,876	5	17,521	7,021	922	1	7,944
Apr-21	228,351	26,214	263	254,828	60,405	6,977	10	67,392	17,052	2,485	2	19,539	15,659	1,861	5	17,524	7,007	916	1	7,924
May-21	228,269	26,216	263	254,748	60,295	6,972	10	67,277	17,024	2,486	2	19,512	15,619	1,851	5	17,474	6,988	916	1	7,906
Jun-21	228,146	26,257	261	254,663	60,184	6,975	10	67,170	16,943	2,483	2	19,427	15,545	1,847	5	17,397	6,982	912	1	7,895
Jul-21	228,813	26,271	263	255,347	60,211	6,949	10	67,171	16,929	2,490	2	19,421	15,509	1,847	5	17,360	6,939	915	1	7,856
Aug-21	228,796	26,260	263	255,320	60,078	6,947	10	67,035	16,924	2,484	2	19,410	15,461	1,845	5	17,311	6,924	916	1	7,842
Sep-21	229,229	26,262	262	255,753	60,023	6,946	10	66,979	16,861	2,485	2	19,348	15,475	1,848	5	17,328	6,923	915	10	7,848
Oct-21	229,615	26,304	263	256,183	60,220	6,949	10	67,179	17,009	2,488	2	19,500	15,588	1,855	5	17,448	6,976	917	7	7,900

Appendix 3.2 - Customer Forecast - Number by Region
Low Growth

	WA/ID				Medford				Roseburg				Klamath Falls				La Grande			
	WA/ID Res	WA/ID Com	WA/ID Firm Ind	WA/ID Total	MFR Res	MFR Com	MFR Firm Ind	MFR Total	ROS Res	ROS Com	ROS Firm Ind	ROS Total	KLA Res	KLA Com	KLA Firm Ind	KLA Total	LGD Res	LGD Com	LGD Firm Ind	LGD Total
Nov-21	230,216	26,275	263	256,755	60,540	6,981	10	67,531	17,112	2,505	2	19,619	15,668	1,868	5	17,541	7,005	915	5	7,925
Dec-21	230,656	26,319	264	257,239	60,724	7,000	10	67,734	17,162	2,509	2	19,673	15,756	1,878	5	17,639	7,030	931	1	7,961
Jan-22	231,663	26,426	260	258,349	61,189	7,001	10	68,200	17,389	2,500	2	19,891	15,819	1,876	5	17,699	7,109	925	1	8,035
Feb-22	231,669	26,431	262	258,362	61,119	7,013	11	68,143	17,405	2,499	2	19,906	15,836	1,893	5	17,734	7,100	924	1	8,025
Mar-22	231,605	26,433	261	258,298	61,054	6,992	10	68,056	17,390	2,528	2	19,921	15,803	1,893	5	17,701	7,076	925	1	8,001
Apr-22	231,309	26,545	264	258,119	61,282	7,019	10	68,311	17,437	2,509	2	19,948	15,823	1,877	5	17,705	7,061	919	1	7,981
May-22	231,226	26,547	264	258,037	61,169	7,014	10	68,193	17,408	2,510	2	19,920	15,782	1,867	5	17,654	7,042	919	1	7,962
Jun-22	231,099	26,589	262	257,950	61,055	7,017	10	68,083	17,323	2,507	2	19,832	15,707	1,863	5	17,575	7,036	916	1	7,952
Jul-22	231,782	26,604	264	258,649	61,083	6,991	10	68,084	17,310	2,514	2	19,826	15,670	1,863	5	17,538	6,993	918	1	7,912
Aug-22	231,764	26,593	264	258,622	60,947	6,989	10	67,945	17,304	2,508	2	19,814	15,622	1,861	5	17,488	6,977	919	1	7,897
Sep-22	232,207	26,595	263	259,065	60,890	6,988	10	67,888	17,239	2,509	2	19,749	15,635	1,864	5	17,505	6,976	917	10	7,904
Oct-22	232,602	26,638	264	259,504	61,092	6,991	10	68,093	17,393	2,512	2	19,907	15,751	1,871	5	17,627	7,030	920	7	7,956
Nov-22	233,217	26,608	264	260,090	61,420	7,023	10	68,453	17,499	2,530	2	20,031	15,832	1,885	5	17,722	7,059	918	5	7,982
Dec-22	233,667	26,653	265	260,585	61,609	7,042	10	68,661	17,551	2,533	2	20,086	15,922	1,895	5	17,821	7,085	933	1	8,019
Jan-23	234,680	26,754	261	261,696	62,063	7,043	10	69,116	17,773	2,523	2	20,298	15,983	1,892	5	17,880	7,164	927	1	8,093
Feb-23	234,685	26,760	264	261,709	61,992	7,055	11	69,057	17,789	2,523	2	20,313	16,000	1,910	5	17,915	7,155	927	1	8,082
Mar-23	234,620	26,762	263	261,644	61,925	7,034	10	68,969	17,773	2,553	2	20,328	15,967	1,910	5	17,881	7,131	927	1	8,059
Apr-23	234,318	26,877	266	261,460	62,158	7,061	10	69,229	17,821	2,533	2	20,357	15,986	1,894	5	17,885	7,116	921	1	8,038
May-23	234,232	26,879	266	261,377	62,043	7,056	10	69,109	17,792	2,534	2	20,328	15,945	1,883	5	17,833	7,097	921	1	8,019
Jun-23	234,103	26,921	264	261,288	61,926	7,059	10	68,996	17,704	2,531	2	20,237	15,869	1,880	5	17,753	7,090	917	1	8,008
Jul-23	234,801	26,936	265	262,003	61,955	7,033	10	68,998	17,690	2,538	2	20,230	15,831	1,880	5	17,715	7,046	920	1	7,967
Aug-23	234,783	26,925	266	261,974	61,815	7,030	10	68,856	17,684	2,532	2	20,218	15,782	1,878	5	17,665	7,031	921	1	7,953
Sep-23	235,236	26,927	264	262,428	61,757	7,029	10	68,797	17,617	2,533	2	20,151	15,796	1,881	5	17,682	7,030	920	10	7,959
Oct-23	235,640	26,971	266	262,877	61,964	7,033	10	69,006	17,776	2,537	2	20,314	15,913	1,888	5	17,806	7,084	922	7	8,013
Nov-23	236,269	26,941	266	263,476	62,300	7,065	10	69,375	17,886	2,554	2	20,442	15,996	1,902	5	17,903	7,114	920	5	8,039
Dec-23	236,730	26,986	267	263,982	62,493	7,084	10	69,586	17,940	2,557	2	20,500	16,087	1,912	5	18,004	7,139	936	1	8,078
Jan-24	237,697	27,083	262	265,042	62,938	7,082	10	70,030	18,156	2,553	2	20,711	16,146	1,909	5	18,060	7,220	930	1	8,150
Feb-24	237,702	27,088	264	265,056	62,865	7,094	11	69,969	18,172	2,553	2	20,727	16,165	1,927	5	18,096	7,210	929	1	8,140
Mar-24	237,635	27,091	263	264,989	62,796	7,073	10	69,879	18,157	2,583	2	20,742	16,130	1,927	5	18,062	7,185	930	1	8,116
Apr-24	237,327	27,208	266	264,801	63,035	7,101	10	70,145	18,206	2,563	2	20,772	16,150	1,911	5	18,066	7,170	924	1	8,095
May-24	237,239	27,210	266	264,716	62,917	7,095	10	70,022	18,176	2,564	2	20,742	16,108	1,900	5	18,013	7,151	924	1	8,076
Jun-24	237,107	27,254	264	264,625	62,798	7,099	10	69,906	18,085	2,561	2	20,648	16,031	1,896	5	17,932	7,144	920	1	8,065
Jul-24	237,820	27,269	266	265,355	62,827	7,072	10	69,909	18,070	2,569	2	20,641	15,992	1,896	5	17,893	7,100	923	1	8,023
Aug-24	237,802	27,258	266	265,327	62,684	7,070	10	69,763	18,064	2,562	2	20,628	15,942	1,894	5	17,841	7,084	924	1	8,009
Sep-24	238,265	27,260	265	265,790	62,625	7,068	10	69,703	17,995	2,563	2	20,559	15,956	1,897	5	17,859	7,083	922	10	8,015
Oct-24	238,679	27,305	266	266,250	62,835	7,072	10	69,917	18,159	2,567	2	20,728	16,076	1,904	5	17,985	7,139	925	7	8,070
Nov-24	239,321	27,274	266	266,862	63,180	7,105	10	70,295	18,273	2,585	2	20,860	16,160	1,918	5	18,083	7,168	923	5	8,096
Dec-24	239,792	27,320	267	267,379	63,378	7,124	10	70,512	18,329	2,588	2	20,919	16,253	1,928	5	18,187	7,194	938	1	8,133
Jan-25	240,714	27,425	263	268,402	63,812	7,121	10	70,943	18,484	2,577	2	21,063	16,310	1,925	5	18,241	7,275	932	1	8,208
Feb-25	240,719	27,431	266	268,416	63,737	7,134	11	70,882	18,501	2,577	2	21,080	16,329	1,943	5	18,277	7,265	932	1	8,198
Mar-25	240,651	27,433	265	268,348	63,667	7,112	10	70,790	18,485	2,608	2	21,095	16,294	1,943	5	18,242	7,240	932	1	8,173
Apr-25	240,335	27,553	268	268,156	63,911	7,140	10	71,062	18,536	2,587	2	21,125	16,314	1,927	5	18,246	7,225	926	1	8,152
May-25	240,246	27,555	268	268,069	63,790	7,135	10	70,935	18,505	2,588	2	21,095	16,271	1,916	5	18,193	7,205	926	1	8,132
Jun-25	240,110	27,599	266	267,976	63,669	7,138	10	70,817	18,412	2,585	2	20,998	16,192	1,912	5	18,110	7,198	922	1	8,121
Jul-25	240,840	27,615	267	268,722	63,699	7,111	10	70,820	18,396	2,593	2	20,991	16,153	1,912	5	18,070	7,153	925	1	8,079
Aug-25	240,821	27,604	268	268,693	63,552	7,109	10	70,671	18,390	2,586	2	20,978	16,102	1,910	5	18,018	7,127	926	1	8,065
Sep-25	241,294	27,606	266	269,166	63,492	7,108	10	70,609	18,318	2,587	2	20,907	16,117	1,914	5	18,035	7,136	925	10	8,071
Oct-25	241,717	27,681	268	269,636	63,707	7,111	10	70,829	18,488	2,591	2	21,081	16,239	1,921	5	18,164	7,192	927	7	8,126
Nov-25	242,373	27,620	268	270,261	64,060	7,144	10	71,214	18,605	2,609	2	21,216	16,324	1,935	5	18,264	7,223	925	5	8,153
Dec-25	242,854	27,667	269	270,790	64,262	7,164	10	71,436	18,662	2,612	2	21,277	16,419	1,945	5	18,369	7,249	941	1	8,191
Jan-26	243,730	27,767	264	271,761	64,632	7,161	10	71,802	18,813	2,601	2	21,416	16,474	1,942	5	18,421	7,330	935	1	8,266
Feb-26	243,736	27,773	267	271,776	64,555	7,173	11	71,739	18,830	2,600	2	21,433	16,490	1,960	5	18,458	7,320	934	1	8,255
Mar-26	243,666	27,774	266	271,706	64,484	7,152	10	71,645	18,813	2,632	2	21,448	16,457	1,960	5	18,423	7,295	935	1	8,230
Apr-26	243,344	27,897	269	271,510	64,733	7,180	10	71,923	18,866	2,611	2	21,479	16,478	1,944	5	18,427	7,279	929	1	8,209
May-26	243,253	27,899	269	271,421	64,610	7,174	10	71,794	18,834	2,612	2	21,448	16,435	1,933	5	18,372	7,259	929	1	8,189
Jun-26	243,114	27,945	267	271,326	64,485	7,178	10	71,673	18,738	2,609	2	21,349	16,354	1,929	5	18,288	7,253	924	1	8,178
Jul-26	243,859	27,960	268	272,088	64,516	7,150	10	71,676	18,722	2,617	2	21,341	16,314	1,929	5	18,248	7,207	928	1	8,135
Aug-26	243,840	27,949	269	272,059	64,366	7,148	10	71,524	18,716	2,610	2	21,328	16,262	1,927	5	18,194	7,191	929	1	8,120
Sep-26	244,323	27,951	267	272,542	64,305	7,147	10	71,461	18,642	2,611	2	21,255	16,277	1,930	5	18,212	7,190	927	10	8,127
Oct-26	244,755	27,997	269	273,021	64,525	7,150	10	71,685	18,816	2,615	2	21,433	16,401	1,937	5	18,343	7,246	930	7	8,183
Nov-26	245,426	27,965	269	273,660	64,885	7,184	10	72,079	18,937	2,634	2	21,572	16,488	1,952	5	18,445	7,277	928	5	8,210
Dec-26	245,917	28,014	270	274,200	65,092	7,204	10	72,308	18,996	2,637	2	21,635	16,585	1,962	5	18,552	7,304	943	1	8,248
Jan-27	246,697	28,108	266	275,071	65,451	7,200	10	72,661	19,141	2,625	2	21,768	16,638	1,958	5	18,601	7,385	937	1	8,323
Feb-27	246,703	28,115	268	275,086	65,374	7,212	11	72,597	19,159	2,624	2	21,785	16,657	1,977	5	18,639	7,375	937	1	8,313
Mar-27	246,631	28,116	267	275,015	65,300	7,191	10	72,501	19,142	2,657	2	21,800	16,621	1,977	5	18,603	7,349	937	1	8,287
Apr-27	246,302	28,241	271	274,814	65,555	7,219	10	72,784	19,196	2,636	2	21,833	16,642	1,960	5	18,608	7,334	931	1	8,266
May-27	246,209	28,243	271	274,723	65,429	7,214	10	72,653	19,163	2,636	2	21,801	16,598	1,949	5	18,552	7,314	931	1	8,246
Jun-27	246,068	28,290	269	274,626	65,302	7,217	10	72,529	19,064	2,633	2	21,699	16,518	1,945	5	18,468	7,307	927	1	8,235
Jul-27	246,828	28,306	270	275,404	65,333	7,190	10	72,533	19,048	2,641	2	21,692	16,475	1,945	5	18,425	7,260	930	1	8,191
Aug-27	246,809	28,294	271	275,374	65,180	7,187	10	72,378	19,042	2,634	2	21,678	16,423	1,943	5	18,371	7,244	931	1	8,176
Sep-27	247,302	28,297	269	275,867	65,117	7,186	10	72,313	18,966	2,635	2	21,603	16,438	1,946	5	18,389	7,243	930	10	8,182
Oct-27	247,742	28,344	271	276,357	65,342	7,190	10	72,542	19,145	2,639	2	21,786	16,564	1,954	5	18,522	7,308	932	7	8,239

Appendix 3.2 - Customer Forecast - Number by Region
Low Growth

	WA/ID				Medford				Roseburg				Klamath Falls				La Grande			
	WA/ID Res	WA/ID Com	WA/ID Firm Ind	WA/ID Total	MFR Res	MFR Com	MFR Firm Ind	MFR Total	ROS Res	ROS Com	ROS Firm Ind	ROS Total	KLA Res	KLA Com	KLA Firm Ind	KLA Total	LGD Res	LGD Com	LGD Firm Ind	LGD Total
Nov-27	248,427	28,311	271	277,009	65,710	7,223	10	72,943	19,269	2,658	2	21,928	16,652	1,968	5	18,626	7,332	930	5	8,267
Dec-27	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Jan-28	249,663	28,450	267	278,380	66,271	7,239	10	73,520	19,469	2,649	2	22,120	16,802	1,975	5	18,782	7,440	940	1	8,381
Feb-28	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Mar-28	249,597	28,458	268	278,323	66,117	7,230	10	73,357	19,470	2,681	2	22,153	16,785	1,994	5	18,783	7,404	940	1	8,345
Apr-28	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
May-28	249,166	28,588	272	278,026	66,248	7,253	10	73,511	19,492	2,660	2	22,154	16,761	1,966	5	18,732	7,368	934	1	8,302
Jun-28	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Jul-28	249,798	28,652	271	278,720	66,150	7,229	10	73,389	19,374	2,665	2	22,042	16,636	1,961	5	18,603	7,314	932	1	8,247
Aug-28	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Sep-28	250,281	28,642	270	279,193	65,930	7,225	10	73,165	19,290	2,659	2	21,951	16,598	1,963	5	18,566	7,296	932	10	8,238
Oct-28	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Nov-28	251,428	28,657	272	280,357	66,535	7,263	10	73,808	19,600	2,682	2	22,285	16,816	1,985	5	18,807	7,386	932	5	8,324
Dec-28	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Jan-29	252,580	28,779	268	281,627	67,091	7,278	10	74,379	19,798	2,679	2	22,479	16,966	1,992	5	18,962	7,496	942	1	8,439
Feb-29	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Mar-29	252,511	28,787	270	281,568	66,934	7,269	10	74,213	19,799	2,711	2	22,512	16,948	2,011	5	18,964	7,459	942	1	8,402
Apr-29	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
May-29	252,073	28,920	273	281,265	67,067	7,293	10	74,370	19,821	2,690	2	22,513	16,924	1,982	5	18,911	7,422	936	1	8,359
Jun-29	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Jul-29	252,717	28,985	273	281,974	66,968	7,268	10	74,246	19,700	2,695	2	22,398	16,797	1,978	5	18,780	7,367	935	1	8,303
Aug-29	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Sep-29	253,209	28,975	271	282,455	66,743	7,264	10	74,017	19,614	2,689	2	22,305	16,759	1,979	5	18,743	7,349	934	10	8,294
Oct-29	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Nov-29	254,379	28,990	273	283,642	67,360	7,302	10	74,672	19,932	2,713	2	22,647	16,981	2,002	5	18,987	7,441	935	5	8,381
Dec-29	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Appendix 3.2 - Customer Forecast - Number by Region
High Growth

	WA/ID				Medford				Roseburg				Klamath Falls				La Grande			
	WA/ID Res	WA/ID Com	WA/ID Firm Ind	WA/ID Total	MFR Res	MFR Com	MFR Firm Ind	MFR Total	ROS Res	ROS Com	ROS Firm Ind	ROS Total	KLA Res	KLA Com	KLA Firm Ind	KLA Total	LGD Res	LGD Com	LGD Firm Ind	LGD Total
Nov-09	200,475	22,820	250	223,545	49,866	6,405	10	56,280	12,978	2,158	2	15,138	13,598	1,608	5	15,211	6,339	866	5	7,210
Dec-09	201,516	22,923	252	224,691	50,270	6,454	10	56,733	13,074	2,166	2	15,241	13,811	1,632	5	15,448	6,403	909	1	7,312
Jan-10	202,185	23,210	247	225,642	50,712	6,496	10	57,218	13,150	2,178	2	15,329	13,937	1,660	5	15,602	6,502	892	1	7,395
Feb-10	202,197	23,223	250	225,671	50,563	6,527	10	57,100	13,178	2,176	2	15,356	13,979	1,702	5	15,686	6,478	891	1	7,370
Mar-10	202,049	23,227	247	225,523	50,423	6,473	10	56,906	13,151	2,246	2	15,399	13,900	1,702	5	15,607	6,418	892	1	7,311
Apr-10	201,367	23,488	256	225,110	50,761	6,544	10	57,315	13,162	2,200	2	15,364	13,872	1,665	5	15,542	6,381	876	1	7,258
May-10	201,173	23,492	256	224,922	50,520	6,530	10	57,060	13,109	2,202	2	15,313	13,776	1,639	5	15,420	6,333	876	1	7,210
Jun-10	200,880	23,589	250	224,720	50,277	6,539	10	56,826	12,954	2,194	2	15,150	13,598	1,630	5	15,233	6,317	864	1	7,182
Jul-10	201,704	23,623	255	225,581	50,188	6,470	10	56,668	12,929	2,212	2	15,143	13,509	1,630	5	15,145	6,207	873	1	7,082
Aug-10	201,663	23,598	256	225,517	49,896	6,464	10	56,370	12,918	2,197	2	15,118	13,395	1,626	5	15,026	6,169	876	1	7,046
Sep-10	202,687	23,603	252	226,541	49,775	6,461	10	56,246	12,799	2,199	2	15,000	13,428	1,633	5	15,066	6,166	872	10	7,048
Oct-10	203,601	23,702	256	227,559	50,057	6,470	10	56,537	13,006	2,208	2	15,216	13,628	1,650	5	15,282	6,301	879	7	7,187
Nov-10	205,022	23,633	256	228,912	50,759	6,554	10	57,324	13,202	2,249	2	15,452	13,820	1,683	5	15,508	6,376	873	5	7,254
Dec-10	206,063	23,737	259	230,057	51,163	6,603	10	57,777	13,297	2,256	2	15,556	14,033	1,706	5	15,745	6,440	916	1	7,357
Jan-11	207,051	24,061	250	231,362	51,754	6,653	10	58,418	13,374	2,286	2	15,662	14,159	1,760	5	15,924	6,576	907	1	7,484
Feb-11	207,063	24,075	256	231,394	51,605	6,685	10	58,300	13,402	2,285	2	15,689	14,201	1,801	5	16,007	6,552	906	1	7,459
Mar-11	206,915	24,078	253	231,246	51,465	6,631	10	58,106	13,375	2,354	2	15,731	14,122	1,801	5	15,929	6,492	907	1	7,400
Apr-11	206,232	24,329	262	230,833	51,952	6,701	10	58,664	13,440	2,309	2	15,771	14,168	1,764	5	15,937	6,455	891	1	7,347
May-11	206,039	24,344	262	230,645	51,711	6,688	10	58,409	13,408	2,310	2	15,720	14,072	1,739	5	15,816	6,407	891	1	7,299
Jun-11	205,746	24,441	256	230,443	51,468	6,697	10	58,175	13,253	2,303	2	15,558	13,894	1,730	5	15,629	6,391	879	1	7,271
Jul-11	207,324	24,474	261	232,059	51,528	6,628	10	58,166	13,227	2,321	2	15,550	13,805	1,730	5	15,540	6,281	888	1	7,170
Aug-11	207,283	24,450	262	231,996	51,236	6,622	10	57,868	13,217	2,306	2	15,525	13,691	1,725	5	15,422	6,243	891	1	7,135
Sep-11	208,307	24,454	258	233,020	51,115	6,619	10	57,744	13,097	2,307	2	15,407	13,724	1,733	5	15,462	6,240	886	10	7,136
Oct-11	209,221	24,553	262	234,037	51,546	6,628	10	58,184	13,379	2,316	2	15,698	13,998	1,749	5	15,752	6,375	894	7	7,276
Nov-11	210,643	24,485	262	235,390	52,249	6,711	10	58,970	13,575	2,357	2	15,934	14,190	1,782	5	15,977	6,450	888	5	7,343
Dec-11	211,682	24,589	264	236,535	52,452	6,761	10	59,423	13,671	2,365	2	16,037	14,404	1,806	5	16,214	6,514	931	1	7,446
Jan-12	214,766	24,981	253	240,000	54,541	6,818	11	61,370	14,523	2,394	2	16,919	14,651	1,859	5	16,515	6,742	922	1	7,665
Feb-12	214,778	24,995	259	240,032	54,387	6,850	11	61,248	14,553	2,392	2	16,947	14,693	1,902	5	16,601	6,718	921	1	7,639
Mar-12	214,626	24,998	256	239,881	54,242	6,795	11	61,048	14,525	2,464	2	16,991	14,613	1,902	5	16,520	6,656	922	1	7,579
Apr-12	213,927	25,266	265	239,458	54,746	6,867	11	61,624	14,615	2,417	2	17,034	14,660	1,864	5	16,529	6,618	906	1	7,525
May-12	213,728	25,271	265	239,264	54,496	6,853	11	61,360	14,559	2,419	2	16,980	14,561	1,837	5	16,404	6,570	906	1	7,477
Jun-12	213,428	25,370	259	239,057	54,245	6,862	10	61,118	14,395	2,411	2	16,808	14,379	1,828	5	16,213	6,553	894	1	7,448
Jul-12	215,046	25,405	264	240,715	54,307	6,792	10	61,109	14,368	2,430	2	16,800	14,289	1,828	5	16,122	6,442	903	1	7,346
Aug-12	215,004	25,380	265	240,649	54,004	6,786	10	60,801	14,357	2,414	2	16,773	14,172	1,823	5	16,000	6,403	905	1	7,310
Sep-12	216,054	25,384	261	241,699	53,879	6,783	10	60,673	14,231	2,416	2	16,649	14,205	1,831	5	16,041	6,400	901	10	7,311
Oct-12	216,991	25,486	265	242,742	54,325	6,792	10	61,128	14,529	2,425	2	16,956	14,486	1,848	5	16,339	6,537	909	7	7,452
Nov-12	218,448	25,415	265	244,129	55,054	6,877	11	61,942	14,736	2,467	2	17,205	14,683	1,882	5	16,570	6,614	903	5	7,521
Dec-12	219,515	25,521	267	245,304	55,472	6,928	11	62,410	14,837	2,475	2	17,314	14,901	1,907	5	16,813	6,678	946	1	7,625
Jan-13	222,769	25,901	256	248,925	57,328	6,960	11	64,299	15,673	2,484	2	18,158	15,306	1,934	5	17,245	6,907	937	1	7,845
Feb-13	222,781	25,915	262	248,959	57,169	6,992	11	64,172	15,704	2,482	2	18,188	15,350	1,978	5	17,333	6,883	935	1	7,819
Mar-13	222,626	25,918	259	248,803	57,018	6,936	11	63,966	15,674	2,555	2	18,232	15,267	1,978	5	17,250	6,820	937	1	7,758
Apr-13	221,908	26,193	268	248,369	57,541	7,009	11	64,561	15,769	2,508	2	18,279	15,316	1,938	5	17,259	6,782	920	1	7,703
May-13	221,705	26,198	268	248,171	57,282	6,995	11	64,288	15,711	2,509	2	18,222	15,214	1,911	5	17,130	6,733	920	1	7,654
Jun-13	221,397	26,300	262	247,959	57,022	7,004	11	64,037	15,538	2,501	2	18,041	15,027	1,902	5	16,933	6,716	908	1	7,625
Jul-13	223,056	26,335	267	249,658	57,085	6,933	11	64,030	15,509	2,520	2	18,032	14,933	1,902	5	16,840	6,603	917	1	7,521
Aug-13	223,013	26,309	268	249,591	56,772	6,927	11	63,710	15,498	2,504	2	18,004	14,813	1,897	5	16,715	6,563	920	1	7,484
Sep-13	224,090	26,314	264	250,668	56,643	6,924	11	63,578	15,365	2,506	2	17,872	14,847	1,905	5	16,757	6,560	916	10	7,486
Oct-13	225,051	26,418	268	251,737	57,105	6,933	11	64,049	15,679	2,515	2	18,197	15,136	1,922	5	17,063	6,699	923	7	7,629
Nov-13	226,545	26,346	268	253,160	57,858	7,020	11	64,889	15,897	2,559	2	18,458	15,339	1,957	5	17,301	6,777	917	5	7,699
Dec-13	227,639	26,455	270	254,364	58,291	7,071	11	65,373	16,004	2,567	2	18,572	15,564	1,983	5	17,552	6,843	961	1	7,805
Jan-14	230,921	26,820	261	258,001	60,279	7,101	11	67,392	16,822	2,573	2	19,397	15,798	1,983	5	17,786	7,073	944	1	8,018
Feb-14	230,934	26,835	267	258,036	60,114	7,134	11	67,259	16,855	2,572	2	19,429	15,842	2,029	5	17,876	7,048	943	1	7,992
Mar-14	230,774	26,838	264	257,876	59,958	7,078	11	67,047	16,824	2,647	2	19,473	15,758	2,029	5	17,791	6,984	944	1	7,930
Apr-14	230,038	27,120	273	257,431	60,499	7,151	11	67,662	16,924	2,598	2	19,523	15,807	1,988	5	17,800	6,946	928	1	7,874
May-14	229,830	27,125	273	257,228	60,231	7,137	11	67,379	16,862	2,599	2	19,464	15,704	1,961	5	17,669	6,895	928	1	7,824
Jun-14	229,514	27,229	267	257,010	59,962	7,146	11	67,119	16,680	2,591	2	19,273	15,512	1,951	5	17,468	6,878	916	1	7,795
Jul-14	231,216	27,265	271	258,752	60,028	7,074	11	67,113	16,650	2,611	2	19,263	15,416	1,951	5	17,372	6,763	925	1	7,689
Aug-14	231,172	27,239	273	258,684	59,704	7,058	11	66,783	16,638	2,594	2	19,235	15,293	1,946	5	17,244	6,723	928	1	7,652
Sep-14	232,276	27,244	268	259,788	59,570	7,065	11	66,646	16,498	2,596	2	19,096	15,329	1,954	5	17,288	6,720	923	10	7,653
Oct-14	233,261	27,350	273	260,884	60,048	7,074	11	67,133	16,829	2,606	2	19,437	15,624	1,972	5	17,601	6,851	931	7	7,790
Nov-14	234,793	27,277	273	262,343	60,828	7,162	11	68,002	17,058	2,650	2	19,711	15,831	2,008	5	17,844	6,941	925	5	7,870
Dec-14	235,915	27,388	275	263,577	61,277	7,214	12	68,502	17,170	2,658	2	19,831	16,061	2,033	5	18,100	7,007	969	1	7,977
Jan-15	239,074	27,740	265	267,079	63,394	7,242	12	70,648	17,972	2,681	2	20,654	16,289	2,033	5	18,327	7,238	952	1	8,191
Feb-15	239,088	27,755	271	267,114	63,223	7,276	12	70,510	18,006	2,679	2	20,688	16,335	2,079	5	18,419	7,213	950	1	8,164
Mar-15	238,924	27,758	268	266,951	63,061	7,219	12	70,292	17,973	2,757	2	20,732	16,249	2,079	5	18,333	7,148	952	1	8,101
Apr-15	238,170	28,046	278	266,494	63,622	7,293	12	70,927	18,078	2,706	2	20,786	16,299	2,038	5	18,342	7,109	935	1	8,045
May-15	237,957	28,051	278	266,286	63,344	7,279	12	70,635	18,014	2,708	2	20,724	16,193	2,010	5	18,208	7,058	935	1	7,994
Jun-15	237,632	28,159	271	266,063	63,065	7,288	12	70,366	17,822	2,699	2	20,524	15,997	2,000	5	18,002	7,041	923	1	7,965
Jul-15	239,376	28,196	276	267,848	63,133	7,216	11	70,360	17,791	2,720	2	20,513	15,900	2,000	5	17,905	6,924	932	1	7,857
Aug-15	239,331	28,169	278	267,778	63,797	7,209	11	71,018	17,779	2,703	2	20,483	15,774	1,995	5	17,774	6,883	935	1	7,819
Sep-15	240,463	28,174	273	268,909	62,659	7,206	11	69,876	17,632	2,704	2	20,338	15,810	2,003	5	17,818	6,880	930	10	7,820
Oct-15	241,472	28,283	278	270,032	63,154	7,216	12	70,381	17,979	2,715	2	20,695	16,112	2,021	5	18,138	7,023	938	7	7,968

Appendix 3.2 - Customer Forecast - Number by Region
High Growth

	WA/ID				Medford				Roseburg				Klamath Falls				La Grande			
	WA/ID Res	WA/ID Com	WA/ID Firm Ind	WA/ID Total	MFR Res	MFR Com	MFR Firm Ind	MFR Total	ROS Res	ROS Com	ROS Firm Ind	ROS Total	KLA Res	KLA Com	KLA Firm Ind	KLA Total	LGD Res	LGD Com	LGD Firm Ind	LGD Total
Nov-15	243,042	28,207	278	271,527	63,963	7,304	12	71,279	18,220	2,760	2	20,982	16,324	2,058	5	18,386	7,104	932	5	8,041
Dec-15	244,192	28,321	279	272,792	64,428	7,357	12	71,796	18,337	2,768	2	21,108	16,559	2,084	5	18,647	7,172	976	1	8,149
Jan-16	247,227	28,659	269	276,155	66,509	7,376	12	73,897	19,121	2,770	2	21,893	16,781	2,083	5	18,868	7,404	959	1	8,364
Feb-16	247,240	28,675	276	276,191	66,331	7,410	12	73,753	19,158	2,769	2	21,928	16,827	2,130	5	18,962	7,378	958	1	8,337
Mar-16	247,073	28,678	273	276,024	66,165	7,352	12	73,529	19,123	2,848	2	21,973	16,739	2,130	5	18,874	7,312	959	1	8,273
Apr-16	246,300	28,973	282	275,556	66,745	7,427	12	74,184	19,233	2,796	2	22,031	16,791	2,088	5	18,884	7,272	942	1	8,214
May-16	246,082	28,978	282	275,342	66,457	7,413	12	73,882	19,165	2,798	2	21,965	16,683	2,059	5	18,747	7,221	942	1	8,164
Jun-16	245,750	29,088	276	275,114	66,168	7,423	12	73,603	18,965	2,789	2	21,757	16,483	2,049	5	18,537	7,203	930	1	8,134
Jul-16	247,536	29,126	281	276,942	66,239	7,349	12	73,600	18,933	2,810	2	21,745	16,383	2,049	5	18,437	7,084	939	1	8,025
Aug-16	247,490	29,098	282	276,871	65,891	7,342	12	73,245	18,919	2,793	2	21,714	16,255	2,044	5	18,304	7,049	942	1	7,986
Sep-16	248,648	29,104	277	278,029	65,748	7,339	12	73,098	18,765	2,795	2	21,562	16,291	2,052	5	18,349	7,040	938	10	7,987
Oct-16	249,682	29,215	282	279,179	66,260	7,349	12	73,621	19,129	2,805	2	21,936	16,599	2,071	5	18,675	7,186	946	7	8,139
Nov-16	251,290	29,138	282	280,710	67,098	7,439	12	74,549	19,381	2,852	2	22,234	16,816	2,108	5	18,929	7,267	939	5	8,212
Dec-16	252,467	29,285	284	282,006	67,579	7,492	12	75,083	19,504	2,860	2	22,366	17,086	2,135	5	19,196	7,357	984	1	8,321
Jan-17	255,373	29,577	272	285,222	69,460	7,502	12	76,974	20,271	2,860	2	23,133	17,272	2,132	5	19,410	7,570	967	1	8,537
Feb-17	255,387	29,593	279	285,259	69,277	7,536	12	76,825	20,309	2,858	2	23,169	17,320	2,180	5	19,505	7,543	965	1	8,510
Mar-17	255,215	29,597	276	285,088	69,104	7,477	12	76,594	20,273	2,940	2	23,214	17,230	2,180	5	19,415	7,477	967	1	8,444
Apr-17	254,425	29,899	285	284,609	69,703	7,554	12	77,270	20,387	2,887	2	23,276	17,283	2,137	5	19,425	7,436	950	1	8,387
May-17	254,201	29,904	285	284,390	69,407	7,539	12	76,958	20,317	2,888	2	23,207	17,172	2,108	5	19,286	7,384	950	1	8,334
Jun-17	253,862	30,016	279	284,157	69,108	7,549	12	76,669	20,108	2,880	2	22,989	16,968	2,098	5	19,071	7,266	937	1	8,204
Jul-17	255,689	30,055	284	286,028	69,181	7,474	12	76,668	20,074	2,901	2	22,976	16,866	2,098	5	18,969	7,245	947	1	8,193
Aug-17	255,642	30,027	285	285,954	68,822	7,468	12	76,302	20,060	2,883	2	22,945	16,735	2,093	5	18,833	7,203	950	1	8,153
Sep-17	256,828	30,032	281	287,140	68,674	7,464	12	76,150	19,899	2,885	2	22,786	16,773	2,102	5	18,879	7,199	945	10	8,155
Oct-17	257,886	30,146	285	288,317	69,203	7,474	12	76,690	20,279	2,895	2	23,176	17,087	2,120	5	19,213	7,348	953	7	8,308
Nov-17	259,531	30,067	285	289,884	70,068	7,565	12	77,645	20,542	2,943	2	23,487	17,308	2,158	5	19,471	7,431	947	5	8,383
Dec-17	260,736	30,186	287	291,210	70,564	7,619	13	78,196	20,670	2,952	2	23,624	17,553	2,185	5	19,743	7,501	991	1	8,494
Jan-18	263,668	30,527	277	294,472	72,247	7,627	13	79,887	21,420	2,932	2	24,354	17,764	2,182	5	19,951	7,735	974	1	8,710
Feb-18	263,682	30,943	283	294,909	72,058	7,662	13	79,733	21,460	2,930	2	24,392	17,813	2,231	5	20,049	7,709	973	1	8,682
Mar-18	263,507	30,547	280	294,334	71,881	7,603	13	79,497	21,422	3,013	2	24,437	17,721	2,231	5	19,956	7,641	974	1	8,616
Apr-18	262,698	30,856	290	293,844	72,498	7,680	13	80,190	21,542	2,959	2	24,502	17,774	2,187	5	19,967	7,592	967	1	8,559
May-18	262,469	30,861	290	293,620	72,192	7,665	13	79,870	21,468	2,961	2	24,431	17,662	2,158	5	19,824	7,546	957	1	8,505
Jun-18	262,122	30,896	283	293,301	71,885	7,675	13	79,572	21,250	2,952	2	24,204	17,454	2,147	5	19,606	7,528	945	1	8,474
Jul-18	263,992	31,016	288	295,296	71,960	7,600	13	79,572	21,215	2,973	2	24,190	17,350	2,147	5	19,502	7,406	954	1	8,361
Aug-18	263,944	30,887	290	295,220	71,591	7,593	12	79,196	21,200	2,955	2	24,157	17,216	2,142	5	19,363	7,363	957	1	8,321
Sep-18	265,157	30,992	285	296,434	71,438	7,590	12	79,040	21,032	2,957	2	23,991	17,254	2,151	5	19,410	7,359	952	10	8,322
Oct-18	266,240	31,109	290	297,639	71,983	7,600	13	79,595	21,428	2,968	2	24,398	17,579	2,170	5	19,750	7,510	960	7	8,472
Nov-18	267,924	31,028	290	299,242	72,873	7,692	13	80,577	21,703	3,016	2	24,721	17,800	2,208	5	20,013	7,594	954	5	8,553
Dec-18	269,157	31,190	292	300,599	73,384	7,746	13	81,143	21,837	3,025	2	24,864	18,050	2,236	5	20,291	7,686	999	1	8,686
Jan-19	271,965	31,477	283	303,724	74,870	7,745	13	82,628	22,570	3,004	2	25,575	18,256	2,232	5	20,492	7,901	982	1	8,883
Feb-19	271,979	31,493	289	303,762	74,676	7,780	13	82,470	22,611	3,002	2	25,615	18,305	2,281	5	20,591	7,874	980	1	8,855
Mar-19	271,800	31,497	286	303,583	74,494	7,720	13	82,228	22,572	3,086	2	25,660	18,211	2,281	5	20,497	7,805	982	1	8,788
Apr-19	270,972	31,812	296	303,081	75,127	7,798	13	82,939	22,696	3,031	2	25,729	18,266	2,237	5	20,508	7,763	965	1	8,728
May-19	270,738	31,818	296	302,853	74,814	7,783	13	82,610	22,620	3,033	2	25,655	18,151	2,207	5	20,363	7,709	965	1	8,675
Jun-19	270,383	31,926	289	302,608	74,498	7,793	13	82,304	22,393	3,024	2	25,418	17,939	2,196	5	20,140	7,681	952	1	8,644
Jul-19	272,296	31,976	294	304,567	74,576	7,717	13	82,305	22,356	3,046	2	25,403	17,833	2,196	5	20,034	7,566	961	1	8,529
Aug-19	272,247	31,942	296	304,490	74,196	7,710	13	81,919	22,340	3,027	2	25,370	17,697	2,191	5	19,893	7,523	965	1	8,488
Sep-19	273,488	31,953	291	305,731	74,039	7,707	13	81,759	22,166	3,029	2	25,197	17,736	2,200	5	19,941	7,519	960	10	8,489
Oct-19	274,595	32,072	296	306,963	74,599	7,717	13	82,329	22,578	3,040	2	25,620	18,063	2,219	5	20,287	7,672	969	7	8,647
Nov-19	276,318	31,989	296	308,603	75,513	7,810	13	83,336	22,864	3,090	2	25,956	18,293	2,258	5	20,556	7,758	961	5	8,724
Dec-19	277,579	32,114	298	309,991	76,038	7,865	13	83,916	23,004	3,099	2	26,104	18,547	2,286	5	20,839	7,830	1,007	1	8,838
Jan-20	280,561	32,463	284	313,308	77,493	7,879	14	85,385	23,719	3,075	2	26,796	18,747	2,281	5	21,034	8,066	989	1	9,056
Feb-20	280,576	32,479	291	313,347	77,294	7,914	14	85,222	23,762	3,073	2	26,838	18,798	2,332	5	21,134	8,039	988	1	9,028
Mar-20	280,393	32,483	288	313,164	77,107	7,854	13	84,975	23,721	3,159	2	26,882	18,702	2,332	5	21,039	7,969	989	1	8,959
Apr-20	279,546	32,806	298	312,650	77,757	7,933	14	85,703	23,851	3,103	2	26,956	18,758	2,287	5	21,050	7,926	972	1	8,899
May-20	279,306	32,812	298	312,416	77,435	7,918	13	85,366	23,771	3,105	2	26,878	18,641	2,256	5	20,902	7,872	972	1	8,845
Jun-20	278,943	32,932	291	312,166	77,111	7,928	13	85,052	23,535	3,096	2	26,633	18,424	2,246	5	20,675	7,883	959	1	8,842
Jul-20	280,900	32,974	296	314,170	77,191	7,850	13	85,054	23,497	3,118	2	26,617	18,316	2,246	5	20,567	7,727	969	1	8,697
Aug-20	280,850	32,944	298	314,091	76,801	7,844	13	84,658	23,481	3,099	2	26,582	18,177	2,240	5	20,423	7,683	972	1	8,656
Sep-20	282,120	32,949	293	315,362	76,640	7,840	13	84,494	23,299	3,101	2	26,403	18,217	2,249	5	20,471	7,679	967	10	8,656
Oct-20	283,253	33,071	298	316,622	77,215	7,850	13	85,078	23,729	3,113	2	26,843	18,551	2,269	5	20,824	7,834	975	7	8,816
Nov-20	285,016	32,987	298	318,300	78,153	7,944	14	86,111	24,025	3,163	2	27,190	18,785	2,308	5	21,098	7,921	969	5	8,895
Dec-20	286,306	33,115	299	319,720	78,691	8,000	14	86,705	24,170	3,172	2	27,345	19,045	2,337	5	21,387	7,995	1,014	1	9,010
Jan-21	289,310	33,451	289	323,050	80,116	8,005	14	88,134	24,869	3,147	2	28,018	19,239	2,331	5	21,575	8,232	997	1	9,229
Feb-21	289,325	33,460	296	323,090	79,912	8,040	14	87,966	24,913	3,145	2	28,060	19,290	2,382	5	21,677	8,204	995	1	9,200
Mar-21	289,138	33,472	292	322,902	79,721	7,979	14	87,714	24,871	3,232	2	28,105	19,193	2,382	5	21,580	8,133	997	1	9,131
Apr-21	288,272	33,803	302	322,377	80,387	8,059	14	88,460	25,005	3,175	2	28,182	19,250	2,337	5	21,591	8,090	979	1	9,070
May-21	288,026	33,809	302	322,137	80,057	8,044	14	88,114	24,923	3,177	2	28,102	19,130	2,306	5	21,441	8,035	979	1	9,015
Jun-21	287,655	33,932	296	321,882	79,725	8,054	14	87,792	24,678	3,168	2	27,848	18,910	2,295	5	21,209	8,016	967	1	8,983
Jul-21	289,657	33,974	301	323,932	79,806	7,976	14	87,795	24,638	3,191	2	27,830	18,800	2,295	5	21,099	7,888	976	1	8,865
Aug-21	289,605	33,943	302	323,851	79,407	7,969	13	87,389	24,621	3,172	2	27,795	18,658	2,289	5	20,952	7,843	979	1	8,823
Sep-21	290,904	33,949	297	325,151	79,242	7,965	13	87,221	24,433	3,174	2	27,609	18,698	2,298	5	21,002	7,839	975	10	8,824
Oct-21	292,064	34,074	302	326,440	79,831	7,976	14	87,820	24,878	3,185	2	28,065	19,038	2,318	5	21,362	7,997	982	7	8,986

Appendix 3.2 - Customer Forecast - Number by Region
High Growth

	WA/ID				Medford				Roseburg				Klamath Falls				La Grande			
	WA/ID Res	WA/ID Com	WA/ID Firm Ind	WA/ID Total	MFR Res	MFR Com	MFR Firm Ind	MFR Total	ROS Res	ROS Com	ROS Firm Ind	ROS Total	KLA Res	KLA Com	KLA Firm Ind	KLA Total	LGD Res	LGD Com	LGD Firm Ind	LGD Total
Nov-21	293,867	33,988	302	328,157	80,793	8,071	14	88,877	25,186	3,236	2	28,424	19,277	2,358	5	21,641	8,085	976	5	9,066
Dec-21	295,187	34,118	304	329,609	81,345	8,127	14	89,486	25,337	3,246	2	28,585	19,542	2,388	5	21,934	8,159	1,022	1	9,182
Jan-22	298,208	34,439	292	332,939	82,739	8,130	14	90,884	26,018	3,219	2	29,239	19,730	2,381	5	22,116	8,397	1,004	1	9,402
Feb-22	298,224	34,456	299	332,979	82,530	8,166	14	90,711	26,064	3,217	2	29,283	19,783	2,433	5	22,220	8,369	1,002	1	9,373
Mar-22	298,032	34,460	295	332,787	82,334	8,104	14	90,453	26,020	3,305	2	29,328	19,683	2,433	5	22,121	8,297	1,004	1	9,302
Apr-22	297,146	34,798	305	332,249	83,017	8,185	14	91,216	26,160	3,248	2	29,409	19,742	2,386	5	22,133	8,254	987	1	9,241
May-22	296,895	34,804	305	332,004	82,678	8,170	14	90,862	26,074	3,250	2	29,326	19,620	2,355	5	21,980	8,197	987	1	9,185
Jun-22	296,515	34,930	299	331,743	82,338	8,180	14	90,532	25,820	3,240	2	29,062	19,395	2,344	5	21,744	8,178	974	1	9,152
Jul-22	298,563	34,973	304	333,840	82,422	8,101	14	90,536	25,779	3,263	2	29,044	19,283	2,344	5	21,632	8,048	983	1	9,033
Aug-22	298,510	34,942	305	333,757	82,012	8,094	14	90,120	25,762	3,244	2	29,008	19,139	2,338	5	21,482	8,002	987	1	8,990
Sep-22	299,839	34,947	300	335,087	81,843	8,091	14	89,948	25,567	3,246	2	28,814	19,180	2,347	5	21,532	7,999	982	10	8,991
Oct-22	301,025	35,075	305	336,405	82,447	8,101	14	90,562	26,028	3,257	2	29,287	19,526	2,368	5	21,899	8,159	990	7	9,155
Nov-22	302,869	34,987	305	338,161	83,432	8,197	14	91,644	26,347	3,309	2	29,659	19,770	2,409	5	22,183	8,248	983	5	9,237
Dec-22	304,220	35,120	307	339,647	83,998	8,254	14	92,267	26,504	3,319	2	29,825	20,039	2,438	5	22,482	8,324	1,029	1	9,354
Jan-23	307,258	35,424	296	342,979	85,362	8,256	15	93,633	27,168	3,290	2	30,460	20,222	2,430	5	22,657	8,563	1,011	1	9,576
Feb-23	307,274	35,443	303	343,020	85,146	8,292	15	93,455	27,216	3,288	2	30,506	20,275	2,483	5	22,763	8,535	1,010	1	9,546
Mar-23	307,078	35,447	300	342,824	84,947	8,230	15	93,191	27,170	3,379	2	30,551	20,174	2,483	5	22,662	8,462	1,011	1	9,474
Apr-23	306,172	35,792	310	342,273	85,647	8,312	15	93,973	27,314	3,320	2	30,636	20,233	2,436	5	22,674	8,417	994	1	9,412
May-23	305,915	35,798	310	342,023	85,300	8,296	15	93,610	27,226	3,322	2	30,549	20,109	2,404	5	22,518	8,360	994	1	9,355
Jun-23	305,526	35,926	303	341,755	84,951	8,306	14	93,272	26,963	3,312	2	30,277	19,881	2,393	5	22,278	8,340	981	1	9,323
Jul-23	307,621	35,970	308	343,900	85,037	8,226	14	93,278	26,920	3,335	2	30,257	19,766	2,393	5	22,164	8,209	991	1	9,200
Aug-23	307,567	35,938	310	343,815	84,618	8,219	14	92,851	26,902	3,316	2	30,220	19,619	2,387	5	22,012	8,162	994	1	9,157
Sep-23	308,926	35,944	305	345,175	84,444	8,216	14	92,674	26,700	3,318	2	30,020	19,661	2,397	5	22,063	8,159	989	10	9,158
Oct-23	310,139	36,075	310	346,524	85,063	8,226	14	93,303	27,178	3,330	2	30,509	20,014	2,417	5	22,436	8,321	997	7	9,325
Nov-23	312,026	35,984	310	348,320	86,072	8,324	15	94,411	27,509	3,383	2	30,893	20,262	2,459	5	22,726	8,412	991	5	9,407
Dec-23	313,407	36,121	312	349,839	86,652	8,381	15	95,048	27,670	3,392	2	31,065	20,526	2,489	5	23,030	8,488	1,037	1	9,526
Jan-24	316,309	36,412	298	353,018	87,985	8,374	15	96,374	28,317	3,380	2	31,699	20,713	2,480	5	23,199	8,729	1,019	1	9,749
Feb-24	316,325	36,430	305	353,060	87,766	8,411	15	96,192	28,367	3,378	2	31,747	20,768	2,534	5	23,306	8,700	1,017	1	9,718
Mar-24	316,124	36,434	301	352,860	87,560	8,348	15	95,923	28,320	3,470	2	31,792	20,665	2,534	5	23,203	8,626	1,019	1	9,646
Apr-24	315,198	36,787	311	352,296	88,276	8,430	15	96,721	28,469	3,410	2	31,881	20,725	2,486	5	23,216	8,581	1,001	1	9,583
May-24	314,935	36,793	311	352,040	87,922	8,414	15	96,351	28,377	3,412	2	31,791	20,599	2,453	5	23,057	8,523	1,001	1	9,525
Jun-24	314,538	36,924	305	351,767	87,565	8,425	15	96,004	28,105	3,402	2	31,509	20,366	2,442	5	22,813	8,503	989	1	9,492
Jul-24	316,679	36,969	310	353,958	87,652	8,344	15	96,011	28,061	3,426	2	31,489	20,250	2,442	5	22,696	8,369	998	1	9,368
Aug-24	318,624	36,936	311	353,872	87,223	8,337	14	95,574	28,043	3,406	2	31,451	20,100	2,436	5	22,541	8,322	1,001	1	9,325
Sep-24	318,014	36,943	306	355,262	87,046	8,333	15	95,394	27,834	3,408	2	31,244	20,143	2,446	5	22,594	8,319	997	10	9,325
Oct-24	319,284	37,076	311	356,641	87,678	8,344	15	96,037	28,327	3,420	2	31,750	20,502	2,467	5	22,974	8,483	1,005	7	9,495
Nov-24	321,182	36,984	311	358,477	88,712	8,442	15	97,170	28,670	3,474	2	32,146	20,754	2,509	5	23,268	8,575	998	5	9,578
Dec-24	322,594	37,123	313	360,030	89,306	8,500	15	97,821	28,837	3,484	2	32,323	21,034	2,539	5	23,578	8,653	1,045	1	9,698
Jan-25	325,359	37,437	302	363,098	90,608	8,492	15	99,115	29,302	3,452	2	32,756	21,205	2,530	5	23,740	8,894	1,026	1	9,922
Feb-25	325,375	37,456	309	363,140	90,384	8,529	15	98,928	29,353	3,450	2	32,805	21,260	2,584	5	23,849	8,865	1,025	1	9,891
Mar-25	325,170	37,460	306	362,936	90,173	8,465	15	98,654	29,305	3,543	2	32,850	21,156	2,584	5	23,745	8,790	1,026	1	9,817
Apr-25	324,224	37,820	316	362,360	90,906	8,548	15	99,470	29,458	3,482	2	32,942	21,217	2,536	5	23,757	8,744	1,009	1	9,754
May-25	323,956	37,826	316	362,098	90,543	8,532	15	99,091	29,364	3,484	2	32,850	21,088	2,503	5	23,596	8,686	1,009	1	9,695
Jun-25	323,549	37,960	309	361,819	90,178	8,543	15	98,736	29,085	3,474	2	32,561	20,851	2,491	5	23,347	8,665	996	1	9,662
Jul-25	325,738	38,006	314	364,058	90,268	8,462	15	98,744	29,039	3,499	2	32,540	20,733	2,491	5	23,229	8,530	1,005	1	9,536
Aug-25	325,681	37,973	316	363,970	89,828	8,484	15	98,298	29,020	3,478	2	32,500	20,581	2,485	5	23,071	8,482	1,009	1	9,492
Sep-25	327,101	37,979	311	365,391	89,647	8,451	15	98,113	28,805	3,480	2	32,288	20,624	2,495	5	23,124	8,479	1,004	10	9,493
Oct-25	328,368	38,115	316	366,799	90,294	8,462	15	98,771	29,313	3,492	2	32,808	20,990	2,516	5	23,511	8,645	1,012	7	9,664
Nov-25	330,338	38,021	316	368,675	91,352	8,561	15	99,928	29,665	3,547	2	33,214	21,246	2,559	5	23,810	8,739	1,005	5	9,749
Dec-25	331,781	38,163	318	370,262	91,959	8,619	16	100,594	29,837	3,557	2	33,396	21,531	2,590	5	24,126	8,817	1,052	1	9,870
Jan-26	334,409	38,462	305	373,176	93,067	8,610	16	101,692	30,288	3,524	2	33,813	21,697	2,579	5	24,281	9,060	1,034	1	10,095
Feb-26	334,426	38,481	312	373,219	92,838	8,647	16	101,501	30,340	3,521	2	33,864	21,753	2,635	5	24,392	9,030	1,032	1	10,063
Mar-26	334,216	38,485	309	373,010	92,623	8,583	16	101,222	30,290	3,616	2	33,909	21,646	2,635	5	24,286	8,954	1,034	1	9,989
Apr-26	333,250	38,853	319	372,422	93,372	8,667	16	102,054	30,448	3,554	2	34,004	21,709	2,589	5	24,298	8,908	1,016	1	9,925
May-26	332,976	38,859	319	372,154	93,001	8,651	16	101,667	30,351	3,557	2	33,910	21,578	2,552	5	24,135	8,848	1,016	1	9,865
Jun-26	332,561	38,996	312	371,869	92,628	8,661	15	101,305	30,064	3,546	2	33,612	21,337	2,540	5	23,882	8,828	1,003	1	9,832
Jul-26	334,796	39,043	317	374,156	92,719	8,579	15	101,314	30,017	3,571	2	33,590	21,216	2,540	5	23,761	8,691	1,013	1	9,704
Aug-26	334,738	39,009	319	374,066	92,271	8,572	15	100,858	29,998	3,550	2	33,550	21,061	2,534	5	23,601	8,642	1,016	1	9,659
Sep-26	336,188	39,015	314	375,517	92,086	8,568	15	100,669	29,777	3,552	2	33,331	21,106	2,544	5	23,655	8,639	1,011	10	9,660
Oct-26	337,462	39,194	319	376,956	92,747	8,579	15	101,341	30,299	3,565	2	33,865	21,477	2,566	5	24,048	8,807	1,019	7	9,834
Nov-26	339,495	39,058	319	378,872	93,827	8,679	16	102,522	30,660	3,621	2	34,283	21,739	2,609	5	24,353	8,902	1,013	5	9,920
Dec-26	340,968	39,203	321	380,493	94,447	8,739	16	103,202	30,837	3,631	2	34,470	22,028	2,640	5	24,674	8,982	1,060	1	10,043
Jan-27	343,308	39,487	310	383,105	95,526	8,727	16	104,270	31,273	3,595	2	34,870	22,188	2,629	5	24,822	9,225	1,041	1	10,268
Feb-27	343,326	39,506	317	383,149	95,283	8,765	16	104,064	31,327	3,593	2	34,922	22,245	2,685	5	24,935	9,195	1,040	1	10,236
Mar-27	343,112	39,511	313	382,936	95,073	8,700	16	103,789	31,276	3,690	2	34,967	22,137	2,685	5	24,827	9,118	1,041	1	10,160
Apr-27	342,126	39,886	324	382,336	95,837	8,785	16	104,638	31,437	3,627	2	35,066	22,200	2,635	5	24,841	9,071	1,023	1	10,096
May-27	341,846	39,892	324	382,062	95,459	8,769	16	104,244	31,338	3,629	2	34,969	22,068	2,601	5	24,674	9,011	1,023	1	10,035
Jun-27	341,423	40,032	317	381,771	95,078	8,780	16	103,873	31,043	3,618	2	34,664	21,822	2,589	5	24,416	8,980	1,008	1	10,003
Jul-27	343,703	40,080	322	384,105	95,171	8,697	16	103,884	30,995	3,643	2	34,641	21,699	2,589	5	24,294	8,851	1,020	1	9,872
Aug-27	343,645	40,045	324	384,013	94,713	8,689	16	103,418	30,976	3,622	2	34,600	21,542	2,583	5	24,130	8,802	1,023	1	9,826
Sep-27	345,124	40,052	318	385,494	94,524	8,686	16	103,226	30,749	3,625	2	34,375	21,587	2,593	5	24,185	8,799	1,019	10	9,827
Oct-27	345,445	40,198	324	386,962	95,199	8,697	16	103,912	31,284	3,637	2	34,923	21,965	2,615	5	24,585	8,970	1,027	7	10,003

Appendix 3.2 - Customer Forecast - Number by Region
High Growth

	WA/ID				Medford				Roseburg				Klamath Falls				La Grande			
	WA/ID Res	WA/ID Com	WA/ID Firm Ind	WA/ID Total	MFR Res	MFR Com	MFR Firm Ind	MFR Total	ROS Res	ROS Com	ROS Firm Ind	ROS Total	KLA Res	KLA Com	KLA Firm Ind	KLA Total	LGD Res	LGD Com	LGD Firm Ind	LGD Total
Nov-27	348,499	40,095	324	388,918	96,302	8,798	16	105,116	31,656	3,694	2	35,351	22,231	2,659	5	24,895	9,066	1,020	5	10,091
Dec-27	350,002	40,244	326	390,572	96,935	8,858	16	105,809	31,837	3,704	2	35,543	22,526	2,691	5	25,222	9,146	1,067	1	10,215
Jan-28	352,208	40,512	313	393,032	97,985	8,845	16	106,847	32,258	3,667	2	35,927	22,680	2,679	5	25,364	9,391	1,049	1	10,441
Feb-28	352,226	40,532	320	393,077	97,747	8,884	16	106,647	32,313	3,665	2	35,980	22,739	2,736	5	25,478	9,360	1,047	1	10,408
Mar-28	352,008	40,536	316	392,860	97,523	8,818	16	106,357	32,261	3,763	2	36,026	22,628	2,736	5	25,368	9,282	1,049	1	10,332
Apr-28	351,001	40,939	327	392,247	98,303	8,904	16	107,223	32,427	3,699	2	36,128	22,692	2,685	5	25,382	9,235	1,031	1	10,268
May-28	350,716	40,926	327	391,969	97,916	8,887	16	106,820	32,325	3,701	2	36,028	22,557	2,651	5	25,213	9,174	1,031	1	10,205
Jun-28	350,284	41,068	320	391,672	97,528	8,898	16	106,442	32,023	3,690	2	35,715	22,308	2,638	5	24,951	9,153	1,018	1	10,172
Jul-28	352,611	41,117	325	394,053	97,623	8,814	16	106,453	31,973	3,716	2	35,691	22,183	2,638	5	24,826	9,012	1,027	1	10,040
Aug-28	352,551	41,081	327	393,959	97,156	8,807	16	105,979	31,953	3,695	2	35,649	22,022	2,632	5	24,660	8,962	1,031	1	9,994
Sep-28	354,060	41,088	321	395,470	96,963	8,803	16	105,782	31,720	3,697	2	35,419	22,068	2,642	5	24,716	8,958	1,026	10	9,994
Oct-28	355,407	41,233	327	396,967	97,652	8,814	16	106,482	32,270	3,710	2	35,981	22,453	2,665	5	25,123	9,132	1,094	7	10,233
Nov-28	357,502	41,133	327	398,962	98,777	8,917	16	107,710	32,651	3,767	2	36,420	22,723	2,709	5	25,438	9,229	1,027	5	10,261
Dec-28	359,096	41,284	329	400,549	99,423	8,977	17	108,416	32,837	3,778	2	36,617	22,922	2,742	5	25,769	9,311	1,025	1	10,337
Jan-29	360,957	41,499	317	402,773	100,445	8,963	17	109,424	33,243	3,757	2	37,002	23,171	2,729	5	25,905	9,557	1,056	1	10,614
Feb-29	360,975	41,519	324	402,818	100,201	9,002	17	109,220	33,300	3,754	2	37,057	23,316	2,796	5	26,021	9,526	1,055	1	10,581
Mar-29	360,752	41,524	321	402,597	99,973	8,935	17	108,925	33,246	3,854	2	37,103	23,118	2,786	5	25,909	9,447	1,056	1	10,504
Apr-29	360,727	41,914	331	401,972	100,766	9,022	17	109,807	32,418	3,788	2	37,208	23,184	2,735	5	25,924	9,398	1,038	1	10,437
May-29	359,436	41,921	331	401,688	100,374	9,006	17	109,396	33,312	3,791	2	37,105	23,047	2,700	5	25,751	9,336	1,038	1	10,376
Jun-29	359,386	42,066	324	401,386	99,978	9,017	16	109,011	33,002	3,780	2	36,784	22,789	2,687	5	25,485	9,315	1,025	1	10,341
Jul-29	361,368	42,116	330	403,813	100,075	8,932	16	109,023	32,951	3,806	2	36,760	22,666	2,687	5	25,359	9,172	1,035	1	10,208
Aug-29	361,356	42,080	331	403,717	99,986	8,924	16	108,939	32,930	3,785	2	36,717	22,501	2,681	5	25,186	9,122	1,038	1	10,161
Sep-29	362,845	42,086	326	405,257	99,402	8,921	16	108,339	32,692	3,787	2	36,481	22,550	2,692	5	25,246	9,118	1,033	10	10,162
Oct-29	364,218	42,234	331	406,783	100,104	9,022	17	109,053	32,286	3,800	2	37,057	22,847	2,796	5	25,660	9,294	1,041	7	10,342
Nov-29	366,354	42,132	331	408,817	101,252	9,035	17	110,304	33,646	3,859	2	37,507	23,216	2,759	5	25,980	9,392	1,035	5	10,432
Dec-29	367,918	42,286	333	410,537	101,911	9,096	17	111,024	33,837	3,869	2	37,708	23,525	2,795	5	26,317	9,475	1,082	1	10,559

APPENDIX 3.3

DEMAND COEFFICIENTS

Appendix 3.3 - Demand Coefficients

HEAT COEFFICIENTS

	January	February	March	April	May	June	July	August	September	October	November	December
WA/ID Res	0.010161	0.009844	0.009304	0.007734	0.005345	0.004028	0.000608	0.000922	0.002525	0.006699	0.009053	0.010008
WA/ID Com	0.053275	0.051052	0.045140	0.036351	0.022150	0.018202	0.000792	0.009813	0.024243	0.037242	0.044417	0.049912
WA/ID Ind	0.029537	0.022645	0.014240	0.006666	0.000440	0.000647	0.000103	0.000655	0.005619	0.024302	0.017250	0.030898
Rose Res	0.011740	0.012002	0.010662	0.008797	0.006684	0.006365	0.002005	0.000131	0.002339	0.006930	0.009309	0.010696
Rose Com	0.051194	0.046536	0.042102	0.034251	0.026890	0.012130	0.006173	0.005015	0.022451	0.042320	0.041711	0.044943
Rose Ind	0.143683	0.382986	0.454116	6.433516	0.073323	0.733043	0.001168	0.620961	0.871054	0.581124	0.430739	0.171302
Medford Res	0.0117059	0.0112635	0.0103266	0.0089624	0.0065806	0.0049395	0.0000000	0.0015629	0.0035456	0.0067777	0.0094898	0.0109030
Medford Com	0.0463831	0.0444072	0.0407981	0.0333211	0.0215413	0.0187994	0.0000000	0.0128279	0.0246833	0.0412677	0.0407016	0.0434298
Medford Ind	0.0077249	0.0218908	0.0155278	0.0089999	0.0020867	0.0000000	0.0000000	0.0000000	0.0000156	0.0050760	0.3650654	0.0194449
LaGrande Res	0.0100328	0.0094154	0.0087315	0.0076290	0.0052489	0.0048472	0.0022910	0.0118836	0.0011452	0.0038170	0.0087451	0.0094379
LaGrande Com	0.0440837	0.0420294	0.0369415	0.0305153	0.0198406	0.0170519	0.0106129	0.0799977	0.0106923	0.0192863	0.0356774	0.0398303
LaGrande Ind	0.0000000	0.0000000	0.0000000	0.0000000	0.0026585	0.0338869	0.4529151	2.2414711	5.5710995	4.7131820	0.0000000	0.0000000
Klamath Res	0.007863	0.007266	0.007048	0.006408	0.004342	0.003034	0.000667	0.000485	0.002265	0.004698	0.007090	0.007764
Klamath Com	0.033613	0.030405	0.027491	0.022579	0.012706	0.006995	0.002275	0.007427	0.016473	0.029815	0.029336	0.032226
Klamath Ind	0.0000000	0.0000000	0.0000000	0.0000000	0.000056	0.0000000	0.0000000	0.0000000	0.0009360	0.0012714	0.0000000	0.0000000

BASE COEFFICIENTS

WA/ID Res	0.056042	0.056042	0.056042	0.056042	0.056042	0.056042	0.056042	0.056042	0.056042	0.056042	0.056042	0.056042
WA/ID Com	0.369928	0.369928	0.369928	0.369928	0.369928	0.369928	0.369928	0.369928	0.369928	0.369928	0.369928	0.369928
WA/ID Ind	3.898256	3.898256	3.898256	3.898256	3.898256	3.898256	3.898256	3.898256	3.898256	3.898256	3.898256	3.898256
Rose Res	0.054292	0.054292	0.054292	0.054292	0.054292	0.054292	0.054292	0.054292	0.054292	0.054292	0.054292	0.054292
Rose Com	0.370630	0.370630	0.370630	0.370630	0.370630	0.370630	0.370630	0.370630	0.370630	0.370630	0.370630	0.370630
Rose Ind	13.780757	13.780757	13.780757	13.780757	13.780757	13.780757	13.780757	13.780757	13.780757	13.780757	13.780757	13.780757
Medford Res	0.048520	0.048520	0.048520	0.048520	0.048520	0.048520	0.048520	0.048520	0.048520	0.048520	0.048520	0.048520
Medford Com	0.343742	0.343742	0.343742	0.343742	0.343742	0.343742	0.343742	0.343742	0.343742	0.343742	0.343742	0.343742
Medford Ind	1.613195	1.613195	1.613195	1.613195	1.613195	1.613195	1.613195	1.613195	1.613195	1.613195	1.613195	1.613195
LaGrande Res	0.057597	0.057597	0.057597	0.057597	0.057597	0.057597	0.057597	0.057597	0.057597	0.057597	0.057597	0.057597
LaGrande Com	0.247762	0.247762	0.247762	0.247762	0.247762	0.247762	0.247762	0.247762	0.247762	0.247762	0.247762	0.247762
LaGrande Ind	9.582906	9.582906	9.582906	9.582906	9.582906	9.582906	9.582906	9.582906	9.582906	9.582906	9.582906	9.582906
Klamath Res	0.043256	0.043256	0.043256	0.043256	0.043256	0.043256	0.043256	0.043256	0.043256	0.043256	0.043256	0.043256
Klamath Com	0.336197	0.336197	0.336197	0.336197	0.336197	0.336197	0.336197	0.336197	0.336197	0.336197	0.336197	0.336197
Klamath Ind	3.515359	3.515359	3.515359	3.515359	3.515359	3.515359	3.515359	3.515359	3.515359	3.515359	3.515359	3.515359

Appendix 3.3 - WA/ID Base Coeffcient Calculation

Average Actual Demand by Class

		Month		
Year	Data	7	8	Grand Total
2005	Average of Res Demand	11,098	10,607	10,852
	Average of Com Demand	7,729	8,406	8,067
	Average of Ind Demand	991	1,001	996
2006	Average of Res Demand	9,988	10,513	10,250
	Average of Com Demand	6,956	8,331	7,643
	Average of Ind Demand	892	992	942
2007	Average of Res Demand	10,032	10,433	10,232
	Average of Com Demand	6,987	8,267	7,627
	Average of Ind Demand	896	984	940
2008	Average of Res Demand	10,684	10,495	10,590
	Average of Com Demand	7,441	8,317	7,879
	Average of Ind Demand	954	990	972
Total Average of Res Demand		10,450	10,512	10,481
Total Average of Com Demand		7,278	8,330	7,804
Total Average of Ind Demand		933	992	962

Average Actual Customer Count by Class

		Month		
Year	Data	7	8	Grand Total
2005	Average of Res Cust	179,140	179,447	179,294
	Average of Com Cust	20,450	20,427	20,439
	Average of Ind Cust	263	260	262
2006	Average of Res Cust	185,182	185,455	185,319
	Average of Com Cust	20,748	20,856	20,802
	Average of Ind Cust	246	242	244
2007	Average of Res Cust	189,577	190,087	189,832
	Average of Com Cust	21,291	21,336	21,314
	Average of Ind Cust	244	241	243
2008	Average of Res Cust	193,667	193,643	193,655
	Average of Com Cust	21,847	21,815	21,831
	Average of Ind Cust	239	240	240
Total Average of Res Cust		186,892	187,158	187,025
Total Average of Com Cust		21,084	21,109	21,096
Total Average of Ind Cust		248	246	247

Base Coefficients

(Actual Average Demand/Customer Count)

0.056042	Res Base Usage
0.369928	Com Base Usage
3.898256	Ind Base Usage

Appendix 3.3 - WA/ID Regression Stats

WA/ID Residential

	January	February	March	April	May	June	July	August	September	October	November	December
Regression Statistics												
Multiple R	0.998398723	0.995750934	0.994490863	0.983623734	0.969333647	0.939778657	0.335222502	0.752299466	0.941398214	0.986521604	0.995938325	0.997695538
R Square	0.99680001	0.991519923	0.989012077	0.967515651	0.93960772	0.883183924	0.112374126	0.565954486	0.886230597	0.973224875	0.991893148	0.995396386
Adjusted R S	0.985930445	0.979615161	0.978142511	0.956279696	0.928738154	0.871947969	0.101504561	0.555084921	0.874994642	0.962355309	0.980657192	0.98452682
Standard Errc	0.022033904	0.030732888	0.026342574	0.030074362	0.016078288	0.010418248	0.00185167	0.002476787	0.007801887	0.021630349	0.024635913	0.027253246
Observations	93	85	93	90	93	90	93	93	90	93	90	93
Coefficients												
Intercept	0	0	0	0	0	0	0	0	0	0	0	0
X Variable 1	0.010161371	0.009844216	0.009304356	0.007733501	0.005344796	0.004028185	0.000608084	0.000921821	0.002524987	0.006699091	0.00905327	0.010007757

WA/ID Commercial

	January	February	March	April	May	June	July	August	September	October	November	December
Regression Statistics												
Multiple R	0.998205563	0.995422216	0.993514039	0.978724692	0.946895526	0.915462071	0.259337381	0.742496607	0.948760581	0.983665598	0.994646858	0.997342233
R Square	0.996414345	0.990865388	0.987070146	0.957902023	0.896611138	0.838070803	0.067255877	0.551301212	0.900146641	0.967598008	0.989322371	0.99469153
Adjusted R S	0.98554478	0.978960626	0.976200581	0.946666068	0.885741572	0.826834848	0.056386312	0.540431646	0.888910686	0.956728443	0.978086416	0.983821964
Standard Errc	0.122309206	0.165472366	0.138772667	0.161734208	0.089249524	0.056897097	0.003194496	0.027159875	0.069633124	0.132664609	0.138894328	0.146007905
Observations	93	85	93	90	93	90	93	93	90	93	90	93
Coefficients												
Intercept	0	0	0	0	0	0	0	0	0	0	0	0
X Variable 1	0.053275318	0.051052228	0.045140487	0.036351273	0.022150311	0.01820155	0.000791714	0.009812502	0.024243202	0.037241593	0.044416725	0.049912097

WA/ID Industrial

	January	February	March	April	May	June	July	August	September	October	November	December
Regression Statistics												
Multiple R	0.983068858	0.98946309	0.970782442	0.864451536	0.542191066	0.654513296	0.474285435	0.900826006	0.958139923	0.979266163	0.973451995	0.987504551
R Square	0.96642438	0.979037207	0.942418549	0.747276459	0.293971152	0.428387654	0.224946674	0.811487493	0.918032112	0.958962219	0.947608786	0.975165238
Adjusted R S	0.955554815	0.967132446	0.931548984	0.736040504	0.283101587	0.417151699	0.214077108	0.800617928	0.906796157	0.948092653	0.936372831	0.964295673
Standard Errc	7.01262933	4.887622022	6.445493864	10.66927823	9.970168364	5.376631886	0.953858066	1.332094749	2.469011204	3.943486882	6.889674699	6.310446154
Observations	93	85	93	90	93	90	93	93	90	93	90	93
Coefficients												
Intercept	0	0	0	0	0	0	0	0	0	0	0	0
X Variable 1	0.029537303	0.022644728	0.014240273	0.006666253	0.000440254	0.000647201	0.000103312	0.000654992	0.005618723	0.02430201	0.017250182	0.030898324

Appendix 3.3 - Medford Base Coeffcient Calculation

Average Actual Demand by Class

		Month		
Year	Data	7	8	Grand Total
2005	Average of Res Demand	2,422	2,367	2,395
	Average of Com Demand	2,136	2,219	2,178
	Average of Ind Demand	8	7	8
2006	Average of Res Demand	2,245	2,306	2,276
	Average of Com Demand	1,979	2,163	2,071
	Average of Ind Demand	8	7	7
2007	Average of Res Demand	2,319	2,285	2,302
	Average of Com Demand	2,044	2,142	2,093
	Average of Ind Demand	8	7	7
2008	Average of Res Demand	2,300	2,688	2,494
	Average of Com Demand	2,027	2,520	2,274
	Average of Ind Demand	8	8	8
Total Average of Res Demand		2,321	2,412	2,366
Total Average of Com Demand		2,047	2,261	2,154
Total Average of Ind Demand		8	7	8

Average Actual Customer Count by Class

		Month		
Year	Data	7	8	Grand Total
2005	Average of Res Customer	47,286	47,191	47,239
	Average of Com Customer	6,085	6,094	6,090
	Average of Ind Customer	-	-	-
2006	Average of Res Customer	48,666	48,531	48,599
	Average of Com Customer	6,225	6,229	6,227
	Average of Ind Customer	-	-	-
2007	Average of Res Customer	49,448	49,391	49,420
	Average of Com Customer	6,356	6,352	6,354
	Average of Ind Customer	9	9	9
2008	Average of Res Customer	49,930	49,734	49,832
	Average of Com Customer	6,395	6,391	6,393
	Average of Ind Customer	10	10	10
Total Average of Res Customer		48,833	48,712	48,772
Total Average of Com Customer		6,265	6,267	6,266
Total Average of Ind Customer		5	5	5

Base Coefficients

(Actual Average Demand/Customer Count)

0.04852	Res Base Usage
0.343742	Com Base Usage
1.613195	Ind Base Usage

Appendix 3.3 - Medford Regression Stats

Medford Residential

	January	February	March	April	May	June	July	August	September	October	November	December
Regression Statistics												
Multiple R	0.997134455	0.9956274	0.991885136	0.992020827	0.971083997	0.951603992	1	0.932017098	0.93846896	0.979085299	0.994286808	0.997032867
R Square	0.994277122	0.991273919	0.983836123	0.98410532	0.943004129	0.905550157	1	0.86865587	0.880723988	0.958608022	0.988606256	0.994074538
Adjusted R S	0.983407557	0.979369158	0.972966558	0.972869365	0.932134564	0.894314202	0.978494624	0.857786305	0.869488033	0.947738457	0.977370301	0.983204972
Standard Erro	0.024793168	0.024268254	0.02636742	0.016960252	0.011758493	0.005471504	0	0.000510824	0.005468033	0.016468298	0.021179782	0.023241593
Observations	93	85	93	90	93	90	93	93	90	93	90	93
Coefficients												
Intercept	0	0	0	0	0	0	0	0	0	0	0	0
X Variable 1	0.011705871	0.011263499	0.010326571	0.008962427	0.006580555	0.004939512	0	0.001562886	0.003545602	0.006777695	0.009489786	0.010903024

Medford Commercial

	January	February	March	April	May	June	July	August	September	October	November	December
Regression Statistics												
Multiple R	0.996784908	0.994461134	0.987386868	0.987224704	0.947022126	0.949396645	1	0.917991079	0.937475383	0.977343321	0.991152773	0.996731693
R Square	0.993580153	0.988952947	0.974932828	0.974612616	0.896850908	0.901353989	1	0.842707622	0.878860094	0.955199968	0.982383819	0.993474067
Adjusted R S	0.982710588	0.977048185	0.964063262	0.963376661	0.885981343	0.890118034	0.978494624	0.831838057	0.867624139	0.944330403	0.971147864	0.982604502
Standard Erro	0.104086797	0.107780652	0.130318333	0.080078125	0.05309695	0.0213312	0	0.004658366	0.038403579	0.104503728	0.11331058	0.097184676
Observations	93	85	93	90	93	90	93	93	90	93	90	93
Coefficients												
Intercept	0	0	0	0	0	0	0	0	0	0	0	0
X Variable 1	0.046383127	0.044407158	0.040798114	0.033321104	0.021541343	0.018799439	0	0.012827896	0.024683314	0.041267734	0.040701618	0.043429764

Medford Industrial

	January	February	March	April	May	June	July	August	September	October	November	December
Regression Statistics												
Multiple R	0.789420263	0.793717904	0.704505615	0.732204638	0.517931489	0	1	0	0.430000967	0.631909117	0.463225574	0.937903107
R Square	0.623184352	0.629988111	0.496328161	0.536123632	0.268253027	0	1	0	0.184900832	0.399309132	0.214577932	0.879662239
Adjusted R S	0.612314787	0.61808335	0.485458596	0.524887677	0.257383462	-0.011111111	0.978494624	-0.010752688	0.173664877	0.388439567	0.203341977	0.868792674
Standard Erro	17.13717432	13.96883719	14.1375431	10.1415113	6.21734101	3.410767265	0	0.836017184	3.783464912	9.062638562	18.42447239	9.577855007
Observations	93	85	93	90	93	90	93	93	90	93	90	93
Coefficients												
Intercept	0	0	0	0	0	0	0	0	0	0	0	0
X Variable 1	0.00772489	0.021890782	0.015527802	0.008999948	0.002086688	0	0	0	1.56271E-05	0.005075985	0.365065388	0.01944488

Appendix 3.3 - Roseburg Base Coeffcient Calculation

Average Actual Demand by Class

		Month		
Year	Data	7	8	Grand Total
2005	Average of Res Demand	859	849	854
	Average of Com Demand	910	1,040	975
	Average of Ind Demand	32	46	39
2006	Average of Res Demand	702	611	657
	Average of Com Demand	744	748	746
	Average of Ind Demand	26	33	29
2007	Average of Res Demand	634	619	627
	Average of Com Demand	672	757	715
	Average of Ind Demand	24	33	28
2008	Average of Res Demand	632	585	609
	Average of Com Demand	670	716	693
	Average of Ind Demand	23	31	27
Total Average of Res Demand		707	666	686
Total Average of Com Demand		749	815	782
Total Average of Ind Demand		26	36	31

Average Actual Customer Count by Class

		Month		
Year	Data	7	8	Grand Total
2005	Average of Res Customer	12,311	12,257	12,284
	Average of Com Customer	2,093	2,093	2,093
	Average of Ind Customer	2	2	2
2006	Average of Res Customer	12,570	12,511	12,541
	Average of Com Customer	2,128	2,112	2,120
	Average of Ind Customer	3	4	4
2007	Average of Res Customer	12,900	12,777	12,839
	Average of Com Customer	2,126	2,105	2,116
	Average of Ind Customer	2	1	2
2008	Average of Res Customer	12,942	12,885	12,914
	Average of Com Customer	2,116	2,106	2,111
	Average of Ind Customer	2	2	2
Total Average of Res Customer		12,681	12,608	12,644
Total Average of Com Customer		2,116	2,104	2,110
Total Average of Ind Customer		2	2	2

Base Coefficients

(Actual Average Demand/Customer Count)

0.054292	Res Base Usage
0.37063	Com Base Usage
13.78076	Ind Base Usage

Appendix 3.3 - Roseburg Regression Stats

Roseburg Residential

	January	February	March	April	May	June	July	August	September	October	November	December
Regression Statistics												
Multiple R	0.991367883	0.990994199	0.988973116	0.982896977	0.964808013	0.913479404	0.901282988	0.442373441	0.903573229	0.97329924	0.991649071	0.99351331
R Square	0.98281028	0.982069503	0.978067824	0.966086467	0.930854503	0.834444621	0.812311025	0.195694261	0.81644458	0.94731141	0.98336788	0.987068697
Adjusted R S	0.971940714	0.970164741	0.967198258	0.954850512	0.919984938	0.823208666	0.80144146	0.184824696	0.805208625	0.936441844	0.972131925	0.976199132
Standard Errc	0.040415547	0.034729716	0.029928677	0.024955649	0.015657803	0.013462314	0.00093196	0.000307506	0.004773063	0.019669774	0.023163079	0.02976046
Observations	93	85	93	90	93	90	93	93	90	93	90	93
Coefficients												
Intercept	0	0	0	0	0	0	0	0	0	0	0	0
X Variable 1	0.011739765	0.012002059	0.01066242	0.008796645	0.006684316	0.006364556	0.002005321	0.000131182	0.00233934	0.006930492	0.009308506	0.01069573

Roseburg Commercial

	January	February	March	April	May	June	July	August	September	October	November	December
Regression Statistics												
Multiple R	0.992265812	0.991074226	0.986097496	0.976906522	0.949873574	0.853735613	0.813329036	0.726798867	0.929317717	0.971654909	0.988621839	0.992886275
R Square	0.984591442	0.982228121	0.972388271	0.954346353	0.902259807	0.728864497	0.661504121	0.528236593	0.863631418	0.944113263	0.977373141	0.985823155
Adjusted R S	0.973721876	0.970323359	0.961518706	0.943110398	0.891390241	0.717628542	0.650634556	0.517367028	0.852395463	0.933243697	0.966137186	0.97495359
Standard Errc	0.166708416	0.134049982	0.132985425	0.113430363	0.076067558	0.035131124	0.004269241	0.005480161	0.03838982	0.123910636	0.121433297	0.131017601
Observations	93	85	93	90	93	90	93	93	90	93	90	93
Coefficients												
Intercept	0	0	0	0	0	0	0	0	0	0	0	0
X Variable 1	0.051193529	0.046535659	0.042101905	0.034250846	0.026890317	0.012129519	0.006172839	0.005015183	0.022451199	0.042319727	0.041711454	0.044942538

Roseburg Industrial

	January	February	March	April	May	June	July	August	September	October	November	December
Regression Statistics												
Multiple R	0.918530171	0.963015396	0.954353828	0.735987825	0.711794929	0.411154682	0.431331093	0.174892794	0.464784791	0.902308321	0.968157638	0.923289039
R Square	0.843697675	0.927398653	0.910791228	0.541678078	0.506652021	0.169048172	0.186046512	0.030587489	0.216024902	0.814160306	0.937329213	0.852462649
Adjusted R S	0.83282811	0.915493891	0.899921663	0.530442123	0.495782455	0.157812217	0.175176946	0.019717924	0.204788947	0.803290741	0.926093258	0.841593084
Standard Errc	10.29134657	5.770224964	5.59859604	10.25082009	6.036836982	4.328790887	0.872278376	1.138447354	3.810085613	5.187912461	4.789973446	9.337545902
Observations	93	85	93	90	93	90	93	93	90	93	90	93
Coefficients												
Intercept	0	0	0	0	0	0	0	0	0	0	0	0
X Variable 1	0.14368321	0.382986079	0.454116065	6.43351624	0.073323445	0.733042531	0.001168185	0.62096138	0.871053897	0.581124251	0.430738696	0.171301851

Appendix 3.3 - Klamath Falls Base Coeffcient Calculation

Average Actual Demand by Class

		Month		
Year	Data	7	8	Grand Total
2005	Average of Res Demand	752	674	713
	Average of Com Demand	632	682	657
	Average of Ind Demand	9	12	11
2006	Average of Res Demand	541	533	537
	Average of Com Demand	455	539	497
	Average of Ind Demand	7	10	8
2007	Average of Res Demand	576	540	558
	Average of Com Demand	484	547	515
	Average of Ind Demand	7	10	8
2008	Average of Res Demand	494	508	501
	Average of Com Demand	416	514	465
	Average of Ind Demand	6	9	8
Total Average of Res Demand		591	564	577
Total Average of Com Demand		497	570	534
Total Average of Ind Demand		7	10	9

Average Actual Customer Count by Class

		Month		
Year	Data	7	8	Grand Total
2005	Average of Res Customer	12,977	12,855	12,916
	Average of Com Customer	1,576	1,566	1,571
	Average of Ind Customer	-	-	-
2006	Average of Res Customer	13,240	13,135	13,188
	Average of Com Customer	1,582	1,576	1,579
	Average of Ind Customer	-	-	-
2007	Average of Res Customer	13,675	13,610	13,643
	Average of Com Customer	1,605	1,598	1,602
	Average of Ind Customer	5	5	5
2008	Average of Res Customer	13,703	13,576	13,640
	Average of Com Customer	1,603	1,590	1,597
	Average of Ind Customer	5	5	5
Total Average of Res Customer		13,399	13,294	13,346
Total Average of Com Customer		1,592	1,583	1,587
Total Average of Ind Customer		3	3	3

Base Coefficients

(Actual Average Demand/Customer Count)

0.043256	Res Base Usage
0.336197	Com Base Usage
3.515359	Ind Base Usage

Appendix 3.3 - Klamath Falls Regression Stats

Klamath Falls Residential

	January	February	March	April	May	June	July	August	September	October	November	December
Regression Statistics												
Multiple R	0.993062364	0.994783204	0.992335858	0.984431794	0.90204138	0.943498977	0.579473888	0.590914942	0.905460706	0.981467019	0.993478035	0.99483772
R Square	0.986172859	0.989593624	0.984730455	0.969105957	0.813678651	0.89019032	0.335789987	0.349180469	0.81985909	0.963277509	0.986998606	0.98970209
Adjusted R S	0.975303294	0.977688862	0.97386089	0.957870002	0.802809086	0.878954365	0.324920421	0.338310903	0.808623135	0.952407944	0.975762651	0.978832524
Standard Erro	0.035652592	0.02567037	0.02588898	0.027423238	0.030798103	0.00980396	0.001655684	0.002471344	0.011285938	0.018299672	0.022703065	0.030326521
Observations	93	85	93	90	93	90	93	93	90	93	90	93
Coefficients												
Intercept	0	0	0	0	0	0	0	0	0	0	0	0
X Variable 1	0.007863049	0.007265615	0.007048129	0.006407522	0.004341971	0.003034126	0.000666518	0.000484551	0.002265305	0.004697918	0.007089624	0.007764077

Klamath Falls Commercial

	January	February	March	April	May	June	July	August	September	October	November	December
Regression Statistics												
Multiple R	0.99126788	0.993538491	0.987434685	0.964267296	0.760031127	0.750273218	0.45023922	0.728985915	0.89961323	0.976689555	0.989089275	0.994348689
R Square	0.982612009	0.987118733	0.975027257	0.929811419	0.577647314	0.562909902	0.202715355	0.531420464	0.809303963	0.953922487	0.978297594	0.988729316
Adjusted R S	0.971742444	0.975213971	0.964157692	0.918575464	0.566777749	0.551673947	0.19184579	0.520550899	0.798068008	0.943052922	0.967061639	0.977859751
Standard Erro	0.171220984	0.119668112	0.129777997	0.148701981	0.161043709	0.05671166	0.0079703	0.026053637	0.084987919	0.130726554	0.121910441	0.131749433
Observations	93	85	93	90	93	90	93	93	90	93	90	93
Coefficients												
Intercept	0	0	0	0	0	0	0	0	0	0	0	0
X Variable 1	0.033613433	0.030405028	0.027490939	0.022578968	0.012705896	0.006995477	0.002275434	0.007426894	0.016472813	0.029814558	0.029335794	0.032225664

Klamath Falls Industrial

	January	February	March	April	May	June	July	August	September	October	November	December
Regression Statistics												
Multiple R	0	0	0	0	0.190476487	0	0	0	0.390765841	0.358970161	0	0
R Square	0	0	0	0	0.036281292	0	0	0	0.152697943	0.128859576	0	0
Adjusted R S	-0.010752688	-0.011764706	-0.010752688	-0.011111111	0.025292281	-0.011111111	-0.010752688	-0.010752688	0.141461988	0.117990011	-0.011111111	-0.010752688
Standard Erro	38.0857832	34.25063331	29.33858702	23.83694611	14.5873647	9.148770409	1.756707575	1.756707575	9.783484642	18.62050906	27.74587056	38.0857832
Observations	93	85	93	90	92	90	93	93	90	93	90	93
Coefficients												
Intercept	0	0	0	0	0	0	0	0	0	0	0	0
X Variable 1	0	0	0	0	5.5682E-05	0	0	0	0.000935955	0.00127142	0	0

Appendix 3.3 - LaGrande Base Coeffcient Calculation

Average Actual Demand by Class

		Month	
Year	Data	7	Grand Total
2005	Average of Res Demand	368	368
	Average of Com Demand	224	224
	Average of Ind Demand	17	17
2006	Average of Res Demand	360	360
	Average of Com Demand	219	219
	Average of Ind Demand	17	17
2007	Average of Res Demand	360	360
	Average of Com Demand	219	219
	Average of Ind Demand	17	17
2008	Average of Res Demand	365	365
	Average of Com Demand	222	222
	Average of Ind Demand	17	17
Total Average of Res Demand		364	364
Total Average of Com Demand		221	221
Total Average of Ind Demand		17	17

Average Actual Customer Count by Class

		Month	
Year	Data	7	Grand Total
2005	Average of Res Customers	6,475	6,475
	Average of Com Customers	949	949
	Average of Ind Customers	3	3
2006	Average of Res Customers	6,163	6,163
	Average of Com Customers	873	873
	Average of Ind Customers	2	2
2007	Average of Res Customers	6,259	6,259
	Average of Com Customers	868	868
	Average of Ind Customers	1	1
2008	Average of Res Customers	6,351	6,351
	Average of Com Customers	880	880
	Average of Ind Customers	1	1
Total Average of Res Customers		6,312	6,312
Total Average of Com Customers		893	893
Total Average of Ind Customers		2	2

Base Coefficients

(Actual Average Demand/Customer Count)

0.057597	Res Base Usage
0.247762	Com Base Usage
9.582906	Ind Base Usage

Appendix 3.3 - LaGrande Regression Stats

LaGrande Residential

	January	February	March	April	May	June	July	August	September	October	November	December
Regression Statistics												
Multiple R	0.994589872	0.994689217	0.983701811	0.976803952	0.909994946	0.914751317	0.818086637	0.708928486	0.583127441	0.957903564	0.985673476	0.996323896
R Square	0.989209014	0.989406639	0.967669253	0.954145961	0.828090802	0.836769971	0.669265746	0.502579598	0.340037612	0.917579238	0.971552202	0.992661306
Adjusted R S	0.978339449	0.977501877	0.956799688	0.942910006	0.817221237	0.825534016	0.658396181	0.491710033	0.328801657	0.906709672	0.960316247	0.98179174
Standard Erro	0.036928346	0.028857126	0.039769899	0.034178424	0.028547421	0.014599672	0.00143458	0.037345249	0.01428263	0.020632378	0.038187972	0.028290967
Observations	93	85	93	90	93	90	93	93	90	93	90	93
Coefficients												
Intercept	0	0	0	0	0	0	0	0	0	0	0	0
X Variable 1	0.010032753	0.00941539	0.008731541	0.007629031	0.005248865	0.004847228	0.002290957	0.011883615	0.001145173	0.003817002	0.008745128	0.009437935

LaGrande Commercial

	January	February	March	April	May	June	July	August	September	October	November	December
Regression Statistics												
Multiple R	0.9942758	0.994924902	0.983584571	0.97556244	0.8950851	0.889506261	0.850734185	0.735492775	0.705875052	0.965396013	0.985553463	0.99585588
R Square	0.988584366	0.98987556	0.967438609	0.951722075	0.801177337	0.791221388	0.723748654	0.540949622	0.498259589	0.931989462	0.971315628	0.991728934
Adjusted R S	0.9777148	0.977970798	0.956569043	0.94048612	0.790307772	0.779985433	0.712879089	0.530080057	0.487023634	0.921119897	0.960079673	0.980859369
Standard Erro	0.16694532	0.125902205	0.168878038	0.140455244	0.117981709	0.059733575	0.005840607	0.232786043	0.096056046	0.093964113	0.156460606	0.126811832
Observations	93	85	93	90	93	90	93	93	90	93	90	93
Coefficients												
Intercept	0	0	0	0	0	0	0	0	0	0	0	0
X Variable 1	0.044083686	0.04202937	0.036941473	0.030515287	0.019840618	0.017051862	0.010612854	0.079997745	0.010692319	0.019286303	0.035677411	0.039830301

LaGrande Industrial

	January	February	March	April	May	June	July	August	September	October	November	December
Regression Statistics												
Multiple R	0	0	0	0	0.20961698	0.638087506	0.636751222	0.592660516	0.909857698	0.983767201	0	0
R Square	0	0	0	0	0.043939278	0.407155665	0.405452118	0.351246488	0.827841031	0.967797907	0	0
Adjusted R S	-0.010869565	-0.011764706	-0.010752688	-0.011111111	0.033069713	0.39591971	0.394582553	0.340376922	0.816605076	0.956928341	-0.011111111	-0.010752688
Standard Erro	35.04096981	29.44526328	24.78401323	20.32240143	11.67168629	5.250770625	0.686848469	2.544293966	3.714547661	3.236476622	25.37715508	34.67483361
Observations	92	85	93	90	93	90	93	93	90	93	90	93
Coefficients												
Intercept	0	0	0	0	0	0	0	0	0	0	0	0
X Variable 1	0	0	0	0	0.002658518	0.033886923	0.452915064	2.241471101	5.571099508	4.713182014	0	0

APPENDIX 3.4

HEATING DEGREE DAY (HDD) DATA

Appendix 3.4 - Heating Degree Day Data Monthly Totals

Temp Pattern	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Total
Klam Falls	2009	1042	935	772	593	393	169	36	48	188	487	825	1212	6700
Klam Falls	2010	1042	935	772	593	393	169	36	48	188	487	825	1212	6700
Klam Falls	2011	1042	935	772	593	393	169	36	48	188	487	825	1212	6700
Klam Falls	2012	1032	930	772	593	393	169	36	48	188	487	820	1202	6670
Klam Falls	2013	1015	923	762	586	393	169	36	48	188	486	809	1187	6602
Klam Falls	2014	1011	915	746	580	389	169	36	48	188	479	803	1187	6551
Klam Falls	2015	1011	912	745	578	386	169	36	48	187	475	799	1187	6533
Klam Falls	2016	1011	912	743	572	383	164	36	48	186	472	798	1186	6511
Klam Falls	2017	1006	909	742	571	378	161	36	48	186	470	794	1181	6482
Klam Falls	2018	1001	907	741	571	377	160	36	47	186	467	792	1177	6462
Klam Falls	2019	992	903	738	568	372	160	36	47	182	466	788	1169	6421
Klam Falls	2020	992	903	738	568	372	160	36	47	182	466	788	1169	6421
Klam Falls	2021	990	902	737	567	372	160	36	47	182	466	788	1169	6416
Klam Falls	2022	990	902	737	567	372	160	36	47	182	466	788	1169	6416
Klam Falls	2023	990	902	737	567	372	160	36	47	182	466	788	1169	6416
Klam Falls	2024	990	902	737	567	372	160	36	47	182	466	788	1169	6416
Klam Falls	2025	989	902	737	566	372	160	36	47	182	466	785	1167	6409
Klam Falls	2026	989	902	737	566	372	160	36	47	182	466	784	1167	6408
Klam Falls	2027	989	902	737	566	372	160	36	47	182	466	784	1167	6408
Klam Falls	2028	987	901	737	564	371	159	36	46	180	464	781	1166	6392
Klam Falls	2029	987	901	737	564	371	159	36	46	180	464			

Temp Pattern	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Total
LaGrande	2009	1019	969	712	511	343	145	29	37	122	484	775	1146	6292
LaGrande	2010	996	958	706	510	343	145	29	37	122	484	766	1127	6223
LaGrande	2011	985	946	682	492	335	144	29	37	120	464	745	1119	6098
LaGrande	2012	964	935	675	487	324	139	28	37	117	460	736	1101	6003
LaGrande	2013	948	924	663	474	320	136	27	36	115	447	722	1084	5896
LaGrande	2014	931	912	652	468	311	134	27	34	113	445	706	1070	5803
LaGrande	2015	914	902	635	454	307	129	26	33	111	431	693	1058	5693
LaGrande	2016	894	890	625	451	302	127	26	33	109	423	682	1039	5601
LaGrande	2017	877	880	616	438	295	124	25	31	107	420	666	1026	5505
LaGrande	2018	860	868	598	430	288	121	24	31	104	409	655	1010	5398
LaGrande	2019	841	854	587	419	284	119	24	30	100	399	640	995	5292
LaGrande	2020	836	853	586	419	283	119	24	30	100	399	637	993	5281
LaGrande	2021	836	852	580	418	281	119	24	30	99	395	633	991	5258
LaGrande	2022	832	852	579	418	281	119	24	30	99	395	632	985	5246
LaGrande	2023	830	852	578	418	281	119	24	30	99	395	630	984	5240
LaGrande	2024	828	846	576	415	279	118	23	30	97	392	627	982	5213
LaGrande	2025	823	845	576	415	277	116	23	30	96	391	626	981	5199
LaGrande	2026	820	842	571	411	275	116	23	30	96	389	622	978	5173
LaGrande	2027	816	840	571	411	275	116	23	30	96	389	621	974	5162
LaGrande	2028	812	840	571	411	275	116	23	30	96	389	621	971	5155
LaGrande	2029	806	833	566	406	274	116	23	30	95	385			

Temp Pattern	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Total
Medford	2009	823	667	560	394	220	58	7	7	68	316	622	966	4708
Medford	2010	792	646	536	379	218	58	7	7	68	308	622	966	4607
Medford	2011	768	633	533	377	218	58	7	7	68	308	611	944	4532
Medford	2012	761	627	514	367	216	58	7	7	68	303	596	940	4464
Medford	2013	758	623	507	361	212	58	7	7	68	293	591	938	4423
Medford	2014	745	619	505	358	207	56	7	7	67	287	587	925	4370
Medford	2015	736	610	502	355	204	56	7	7	66	287	581	917	4328
Medford	2016	726	607	490	351	199	56	7	7	65	282	570	912	4272
Medford	2017	716	605	486	344	197	53	7	7	65	280	561	900	4221
Medford	2018	711	595	482	339	195	53	7	7	62	278	556	893	4178
Medford	2019	696	588	474	333	195	53	7	7	62	270	551	888	4124
Medford	2020	694	586	471	333	195	53	7	7	62	270	545	882	4105
Medford	2021	694	586	471	333	195	53	7	7	62	270	545	882	4105
Medford	2022	688	585	465	328	191	50	7	6	59	268	544	878	4069
Medford	2023	686	584	465	328	191	50	7	6	59	268	543	874	4061
Medford	2024	686	583	461	327	189	50	7	6	59	267	538	872	4045
Medford	2025	685	580	461	327	187	50	7	6	59	266	537	871	4036
Medford	2026	683	576	459	322	187	50	7	6	59	265	533	868	4015
Medford	2027	683	576	459	322	187	50	7	6	59	265	533	868	4015
Medford	2028	677	575	458	322	187	50	7	6	59	265	530	867	4003
Medford	2029	673	574	454	319	185	49	7	6	58	262			

Appendix 3.4 - Heating Degree Day Data Monthly Totals

Temp Pattern	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Total
Roseburg	2009	677	623	491	354	219	79	13	6	66	275	501	831	4135
Roseburg	2010	677	623	491	354	219	79	13	6	66	275	501	830	4134
Roseburg	2011	660	611	483	353	219	79	13	6	66	274	497	817	4078
Roseburg	2012	650	604	471	344	214	79	13	6	66	284	476	808	3995
Roseburg	2013	646	601	464	337	210	79	13	6	66	263	472	802	3959
Roseburg	2014	634	593	460	332	206	78	13	6	64	262	470	795	3913
Roseburg	2015	630	588	452	327	203	77	13	6	64	255	467	788	3870
Roseburg	2016	617	580	450	322	201	76	13	6	62	253	460	779	3825
Roseburg	2017	609	580	443	322	201	76	13	6	62	249	454	772	3787
Roseburg	2018	604	571	437	315	194	72	12	6	58	242	443	765	3719
Roseburg	2019	596	569	430	309	193	72	12	6	58	240	439	762	3686
Roseburg	2020	586	565	428	305	189	69	11	6	57	239	435	756	3646
Roseburg	2021	583	563	425	303	189	69	11	6	57	238	434	750	3628
Roseburg	2022	579	557	421	303	188	69	11	6	57	237	429	747	3604
Roseburg	2023	577	556	420	303	188	69	11	6	57	236	427	743	3593
Roseburg	2024	575	552	417	300	186	69	11	6	56	236	426	740	3574
Roseburg	2025	569	551	411	300	186	69	11	6	56	232	422	736	3549
Roseburg	2026	566	551	411	300	186	69	11	6	56	232	422	733	3543
Roseburg	2027	560	546	406	295	179	62	10	5	54	228	416	729	3490
Roseburg	2028	556	543	404	293	179	62	10	5	54	228	412	728	3474
Roseburg	2029	553	538	401	290	176	62	10	5	54	227			

Temp Pattern	Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Total
WA/ID	2009	1128	1155	761	548	317	145	35	34	187	541	886	1184	6921
WA/ID	2010	1128	1155	761	548	317	145	35	34	187	541	886	1184	6921
WA/ID	2011	1111	1143	760	548	317	145	35	34	187	541	875	1167	6863
WA/ID	2012	1097	1134	734	536	317	145	35	34	187	531	856	1158	6764
WA/ID	2013	1092	1126	730	527	313	145	35	34	185	525	856	1156	6724
WA/ID	2014	1081	1123	730	525	303	144	35	34	180	518	855	1150	6678
WA/ID	2015	1078	1118	729	522	301	142	35	34	178	516	845	1141	6639
WA/ID	2016	1071	1106	719	518	296	141	34	34	175	507	835	1131	6567
WA/ID	2017	1051	1102	712	515	296	137	34	34	173	506	829	1126	6515
WA/ID	2018	1044	1098	703	506	295	134	32	34	173	501	820	1120	6460
WA/ID	2019	1040	1092	700	500	295	134	32	34	173	499	815	1113	6427
WA/ID	2020	1035	1088	700	500	295	134	32	34	173	499	815	1109	6414
WA/ID	2021	1035	1085	697	499	293	130	32	32	171	494	812	1106	6386
WA/ID	2022	1028	1084	695	496	292	130	32	32	171	492	810	1101	6363
WA/ID	2023	1025	1082	692	495	292	130	32	32	171	490	808	1101	6350
WA/ID	2024	1023	1078	688	495	291	130	32	32	170	489	804	1098	6330
WA/ID	2025	1017	1074	685	495	291	130	32	32	170	489	798	1097	6310
WA/ID	2026	1016	1074	685	495	291	130	32	32	170	489	797	1094	6305
WA/ID	2027	1014	1072	682	492	286	129	31	31	168	484	793	1093	6275
WA/ID	2028	1006	1069	681	492	286	129	31	31	168	484	792	1091	6260
WA/ID	2029	1005	1067	680	491	281	129	31	31	166	482			

Appendix 3.4 - Heating Degree Days by Day (Includes Peak Weather Event and Additional Winter Storm)

Temperature Pattern	Day	January	February	March	April	May	June	July	August	September	October	November	December
Klamath Falls	1	29	32	26	30	11	0	9	0	3	7	30	29
Klamath Falls	2	33	39	22	31	8	0	2	0	5	8	31	28
Klamath Falls	3	33	44	19	27	4	0	0	0	6	7	20	31
Klamath Falls	4	33	43	13	25	4	0	0	0	7	6	19	31
Klamath Falls	5	23	36	18	23	6	0	0	0	7	7	15	29
Klamath Falls	6	22	41	27	20	12	0	1	0	10	9	10	35
Klamath Falls	7	28	34	22	23	14	1	2	0	10	14	10	39
Klamath Falls	8	31	30	22	29	15	4	0	0	8	27	23	38
Klamath Falls	9	32	35	24	33	23	15	0	0	1	25	31	42
Klamath Falls	10	25	40	23	29	20	17	0	0	1	23	29	43
Klamath Falls	11	28	28	29	27	21	17	0	0	4	21	33	50
Klamath Falls	12	30	33	25	32	16	17	0	0	3	21	37	42
Klamath Falls	13	24	42	26	28	16	15	0	0	1	25	28	41
Klamath Falls	14	35	51	29	21	12	16	0	0	3	23	31	37
Klamath Falls	15	41	54	32	17	18	15	0	0	12	13	25	34
Klamath Falls	16	34	53	29	18	15	10	0	0	16	6	22	37
Klamath Falls	17	30	47	24	12	10	5	0	0	19	10	26	0
Klamath Falls	18	37	26	33	10	4	0	0	0	11	12	28	54
Klamath Falls	19	42	25	34	7	0	0	0	0	4	13	19	66
Klamath Falls	20	39	23	33	7	1	0	2	0	7	14	14	72
Klamath Falls	21	42	26	28	8	2	0	6	0	11	13	23	68
Klamath Falls	22	44	23	28	16	14	0	9	0	11	9	24	58
Klamath Falls	23	42	19	28	15	27	0	5	0	4	10	33	36
Klamath Falls	24	38	21	27	17	26	0	0	0	0	19	31	36
Klamath Falls	25	36	23	22	25	24	0	0	10	0	17	34	28
Klamath Falls	26	40	20	22	16	21	0	0	13	5	16	33	42
Klamath Falls	27	34	23	25	18	14	0	0	9	7	29	39	28
Klamath Falls	28	32	24	26	12	11	7	0	4	7	22	44	33
Klamath Falls	29	34		24	9	11	17	0	5	1	23	51	35
Klamath Falls	30	33		16	4	13	13	0	4	4	20	42	35
Klamath Falls	31	38		14		0		0	3		18		34

Temperature Pattern	Day	January	February	March	April	May	June	July	August	September	October	November	December
LaGrande	1	28	30	28	26	8	2	0	0	0	0	26	37
LaGrande	2	27	28	26	26	10	0	1	0	0	1	26	27
LaGrande	3	29	28	28	25	14	7	0	0	0	7	18	27
LaGrande	4	32	23	25	22	20	4	0	0	8	9	19	27
LaGrande	5	32	31	25	18	21	5	0	0	4	16	26	23
LaGrande	6	27	33	27	26	12	5	0	0	3	8	25	23
LaGrande	7	17	32	23	28	8	9	0	0	0	13	19	31
LaGrande	8	23	31	26	28	16	11	0	0	0	22	20	32
LaGrande	9	28	32	31	26	18	5	4	0	0	23	27	28
LaGrande	10	30	31	27	24	17	4	5	0	0	26	25	31
LaGrande	11	27	24	30	22	13	8	0	0	0	24	21	36
LaGrande	12	22	20	30	24	10	13	0	0	0	22	21	34
LaGrande	13	31	61	30	27	14	10	0	0	0	22	23	28
LaGrande	14	34	68	25	18	7	10	0	0	4	16	24	30
LaGrande	15	33	74	23	10	6	6	0	0	2	23	20	29
LaGrande	16	36	61	24	12	9	0	0	0	13	15	22	38
LaGrande	17	36	60	16	15	6	0	0	0	17	12	22	40
LaGrande	18	35	31	16	9	16	0	0	0	8	8	27	51
LaGrande	19	30	24	15	4	11	0	0	0	7	16	28	58
LaGrande	20	32	26	10	12	11	0	10	0	3	14	33	64
LaGrande	21	32	28	17	17	7	0	8	0	3	25	28	58
LaGrande	22	38	28	18	11	1	1	1	0	3	25	34	51
LaGrande	23	34	28	16	7	9	5	0	1	0	15	35	26
LaGrande	24	29	27	28	7	7	2	0	9	0	21	27	28
LaGrande	25	23	27	29	17	1	0	0	5	0	15	31	35
LaGrande	26	33	26	21	16	3	0	0	7	1	25	25	40
LaGrande	27	43	24	17	18	16	0	0	7	16	15	30	46
LaGrande	28	49	22	20	9	16	13	0	4	14	17	32	42
LaGrande	29	51		21	5	13	16	0	0	10	16	28	41
LaGrande	30	39		19	1	11	9	0	0	6	1	31	37
LaGrande	31	36		15		10		0	4		12		29

Temperature Pattern	Day	January	February	March	April	May	June	July	August	September	October	November	December
Medford	1	29	15	13	14	10	0	2	4	0	0	10	30
Medford	2	30	12	15	14	8	0	1	0	0	1	13	27
Medford	3	31	15	17	20	2	0	0	0	3	9	11	21
Medford	4	28	14	18	18	6	0	0	0	4	7	18	25
Medford	5	32	21	20	9	19	0	0	0	2	3	16	24
Medford	6	29	25	20	0	19	4	0	0	0	0	21	19
Medford	7	27	13	18	18	10	6	0	0	0	0	21	23
Medford	8	31	17	21	19	6	1	0	0	0	3	21	23
Medford	9	30	22	23	15	5	0	1	0	0	11	19	22
Medford	10	32	19	15	17	7	0	0	0	0	13	18	19
Medford	11	30	14	12	12	9	0	0	0	0	14	17	27
Medford	12	31	23	15	22	12	0	0	0	0	15	19	26
Medford	13	36	32	14	25	11	6	0	0	5	6	27	25
Medford	14	31	36	10	18	8	4	0	0	8	9	23	28
Medford	15	26	38	14	13	8	3	0	0	5	13	21	28
Medford	16	20	32	13	13	3	10	0	0	2	10	22	21
Medford	17	22	28	13	18	7	9	0	0	7	10	25	27
Medford	18	20	25	10	20	0	6	0	0	1	9	21	50
Medford	19	23	26	13	17	4	4	0	0	4	7	19	59
Medford	20	24	28	19	14	7	2	0	0	5	13	14	61
Medford	21	27	23	19	8	9	1	0	0	3	20	16	56
Medford	22	23	21	21	5	11	1	0	0	4	19	24	55
Medford	23	23	24	17	10	9	0	0	1	3	12	32	28
Medford	24	20	25	19	9	12	0	0	0	0	14	26	30
Medford	25	15	22	21	5	3	0	0	0	0	7	19	29
Medford	26	16	26	24	4	0	0	0	0	0	10	18	36
Medford	27	20	27	19	4	1	0	0	0	1	13	24	35
Medford	28	17	25	20	7	0	0	0	0	1	13	29	29
Medford	29	22		20	6	4	1	0	0	0	15	34	29
Medford	30	24		23	5	5	0	0	2	10	14	24	25
Medford	31	23		20		3		3	0		18		29

Appendix 3.4 - Heating Degree Days by Day (Includes Peak Weather Event and Additional Winter Storm)

Temperature Pattern	Day	January	February	March	April	May	June	July	August	September	October	November	December
Roseburg	1	26	25	16	19	15	3	0	0	0	0	14	10
Roseburg	2	30	27	19	12	8	2	0	0	1	2	14	19
Roseburg	3	29	23	16	13	9	9	5	0	0	8	14	19
Roseburg	4	32	18	16	15	6	2	3	0	0	7	20	21
Roseburg	5	30	11	22	19	4	0	1	0	0	7	21	19
Roseburg	6	25	23	22	15	8	4	0	0	0	2	17	23
Roseburg	7	27	25	21	10	14	1	0	0	0	0	15	23
Roseburg	8	29	23	11	13	14	3	0	0	0	0	15	17
Roseburg	9	28	26	8	14	13	1	4	0	0	0	19	16
Roseburg	10	28	27	16	13	5	4	0	0	0	0	15	18
Roseburg	11	29	25	14	12	11	5	0	0	5	5	18	27
Roseburg	12	24	20	14	8	12	5	0	0	10	4	18	28
Roseburg	13	27	32	10	7	3	5	0	2	6	5	13	31
Roseburg	14	28	37	11	14	0	3	0	0	5	1	16	19
Roseburg	15	22	42	14	21	0	0	0	0	5	5	11	24
Roseburg	16	15	34	12	20	0	0	0	0	0	9	13	35
Roseburg	17	12	28	11	20	0	0	0	0	0	14	16	41
Roseburg	18	6	16	12	13	0	0	0	1	3	17	17	40
Roseburg	19	12	14	17	9	0	0	0	0	9	22	20	53
Roseburg	20	11	12	15	7	7	0	0	0	8	15	20	55
Roseburg	21	17	15	21	14	12	0	0	0	0	15	25	46
Roseburg	22	18	14	23	13	14	0	0	0	0	15	25	48
Roseburg	23	16	26	26	8	15	4	0	0	2	16	23	8
Roseburg	24	21	21	26	9	4	3	0	0	2	16	20	11
Roseburg	25	20	17	21	5	6	0	0	0	0	13	7	12
Roseburg	26	15	11	19	10	5	5	0	0	2	16	16	17
Roseburg	27	19	10	13	5	3	6	0	0	5	19	13	27
Roseburg	28	20	21	13	0	10	8	0	0	4	18	16	29
Roseburg	29	20		10	6	7	3	0	0	0	8	15	28
Roseburg	30	22		8	10	3	3	0	0	1	8	15	32
Roseburg	31	19		15		10		0	3		8		34

Temperature Pattern	Day	January	February	March	April	May	June	July	August	September	October	November	December
WA/ID	1	38	31	21	25	4	8	0	0	1	9	22	25
WA/ID	2	40	35	25	29	13	0	0	0	0	10	27	29
WA/ID	3	43	43	23	28	14	0	0	0	0	6	30	32
WA/ID	4	43	53	25	25	10	4	4	0	0	15	32	29
WA/ID	5	51	49	30	19	13	8	7	0	0	22	29	30
WA/ID	6	44	47	27	11	11	1	3	5	0	25	27	33
WA/ID	7	40	48	25	7	5	0	0	4	0	15	30	38
WA/ID	8	40	47	26	11	1	0	0	0	0	17	36	34
WA/ID	9	43	55	16	20	2	6	0	0	8	15	35	36
WA/ID	10	43	47	22	23	5	8	0	0	9	13	26	43
WA/ID	11	43	39	26	23	15	6	0	0	8	12	25	38
WA/ID	12	44	30	30	21	11	4	0	0	2	10	33	36
WA/ID	13	51	62	22	19	4	0	0	0	0	9	28	47
WA/ID	14	57	72	21	18	14	1	0	0	0	11	29	41
WA/ID	15	61	82	27	21	10	0	0	0	0	20	32	36
WA/ID	16	49	67	28	29	9	3	0	0	0	22	28	41
WA/ID	17	36	57	29	20	14	12	0	0	9	22	26	40
WA/ID	18	26	27	30	22	17	15	7	0	16	18	26	51
WA/ID	19	21	16	28	22	10	12	9	0	18	18	26	56
WA/ID	20	23	14	27	22	14	2	5	0	14	17	23	61
WA/ID	21	24	26	24	21	10	3	0	0	11	14	33	58
WA/ID	22	28	31	22	17	4	8	0	2	4	14	37	53
WA/ID	23	25	33	17	15	10	10	0	3	11	7	27	51
WA/ID	24	26	34	22	10	13	7	0	6	13	15	21	33
WA/ID	25	29	30	20	17	14	7	0	4	15	20	28	32
WA/ID	26	26	29	19	19	7	1	0	6	15	22	34	29
WA/ID	27	25	28	21	9	5	6	0	3	14	28	38	31
WA/ID	28	26	23	21	8	18	6	0	1	6	27	35	31
WA/ID	29	28		28	12	15	7	0	0	4	28	35	31
WA/ID	30	29		33	14	16	0	0	0	9	30	30	32
WA/ID	31	28		26		16		0	0		30		27

APPENDIX 3.5

GLOBAL WARMING SUMMARY AND GRAPHS

Global Warming

- Peak and trough weather appears more volatile

- Reduce annual consumption over time

- Decrease **non peak** HDDs over time to reflect warming trend

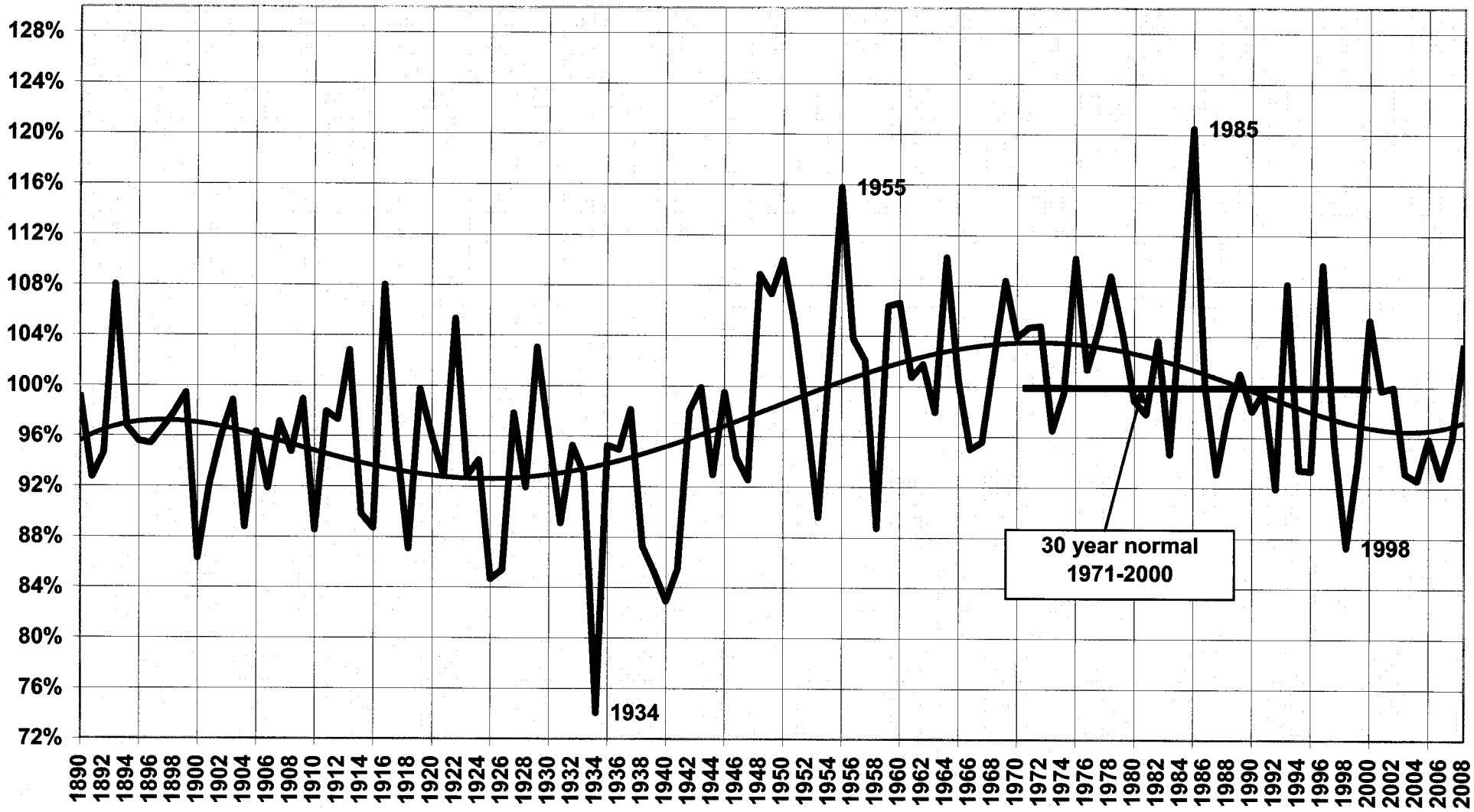
GLOBAL WARMING ADJUSTMENT

- Heating degree day data is obtained from the National Weather Service (NWS). Avista uses the most recent 30-year period, which goes from 1979-2008. For Oregon, Avista uses four weather stations as the weather basis, corresponding to the areas within which natural gas services are provided, all of which are official National Weather Service stations. Heating degree day weather patterns between these areas are uncorrelated.

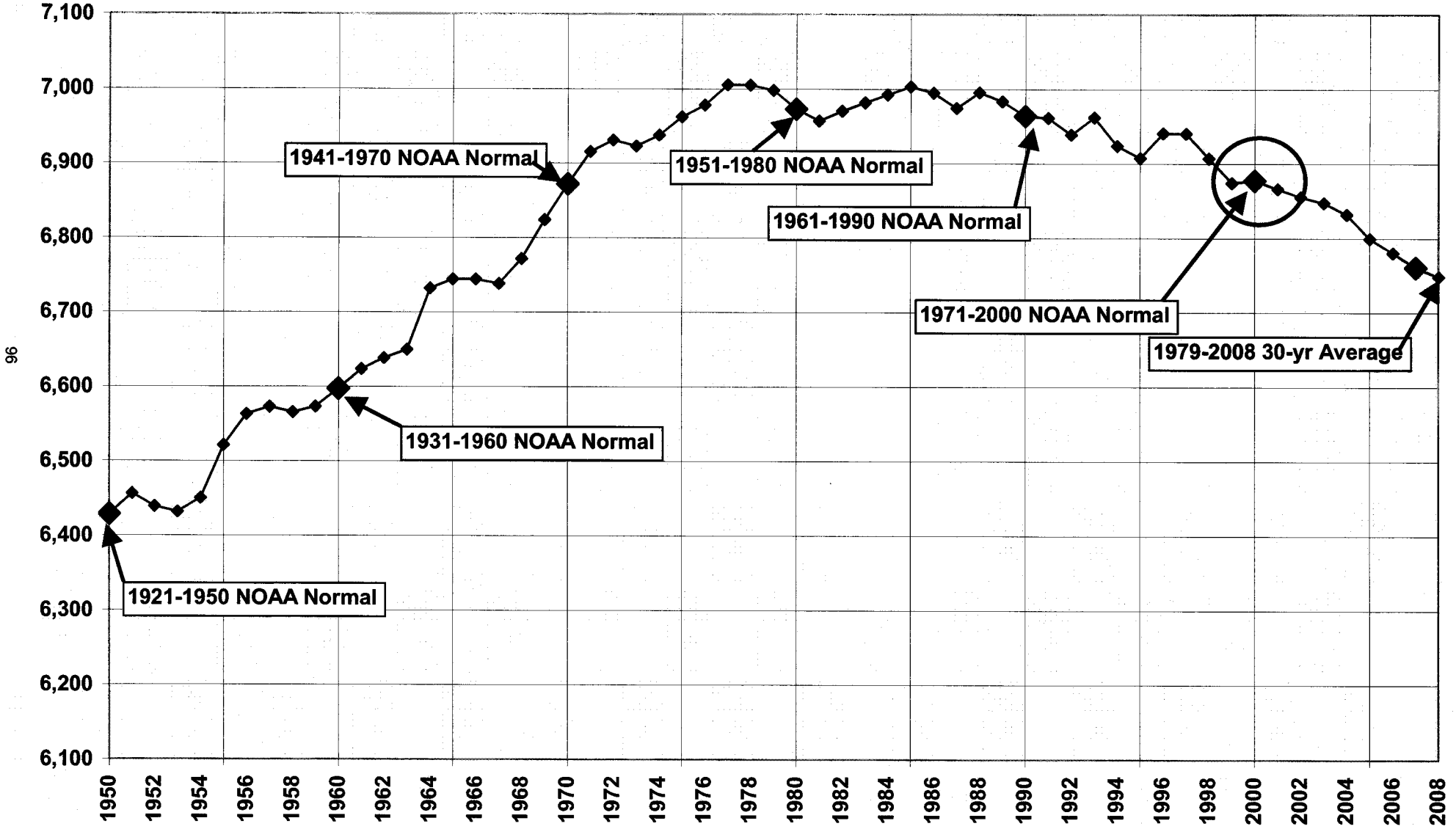
- At the April 2009 Technical Advisory Committee meeting, Avista presented some data and information regarding trends in heating degree days for its service area. Avista has adopted a "Global Warming" baseline for forecasting which captures the modest warming trend (i.e. gradually declining heating degree days) expected through the 20 year forecast period.

- By 2030, as compared to the "official" NWS normal figures based on the 1971-2000 period, the number of annual heating degree days as a percentage of the official period are:
    - Spokane 93.9%
    - Medford 88.4%
    - Roseburg 86.8%
    - Klamath Falls 94.9%
    - La Grande 81.6%

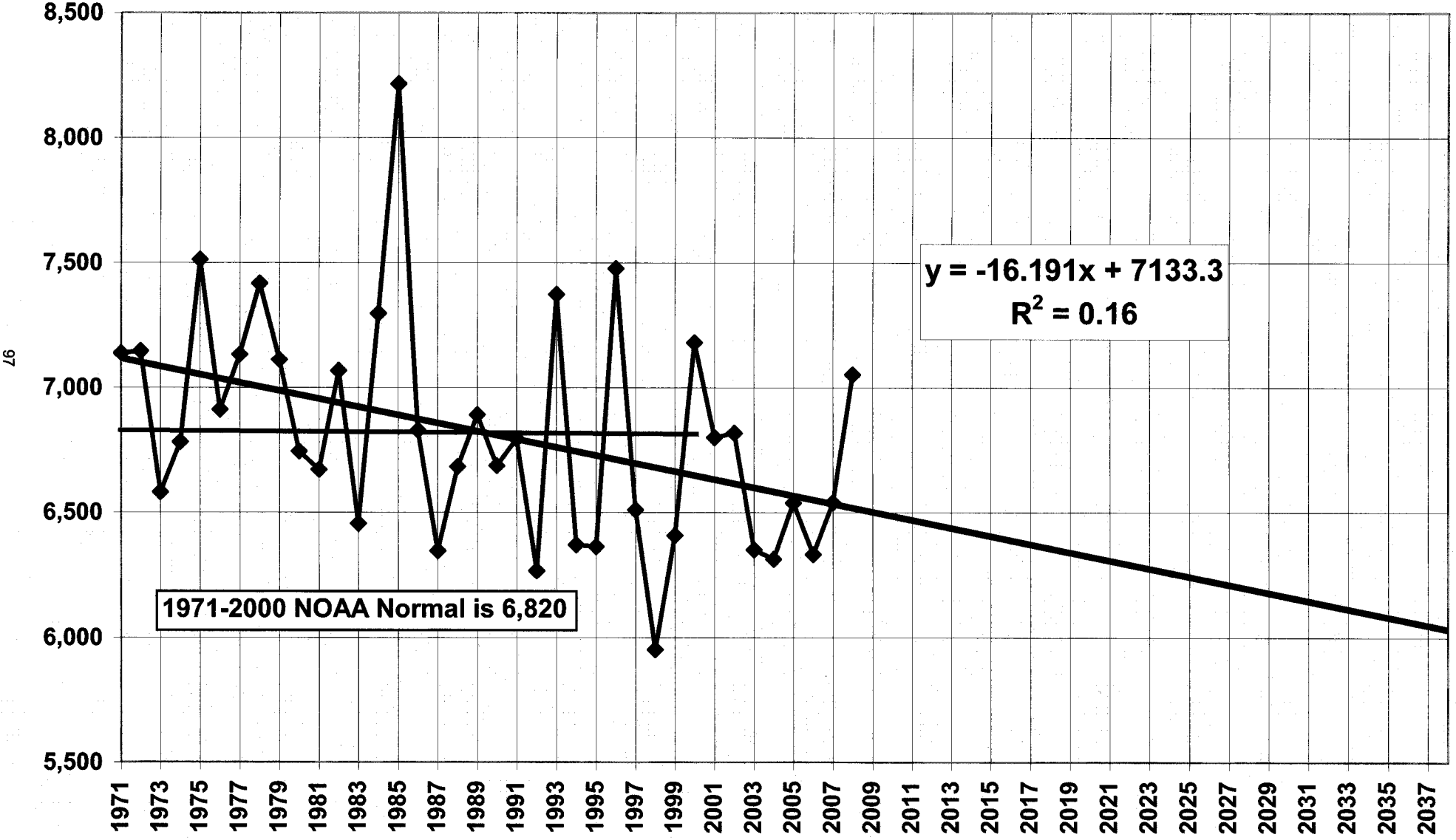
Annual Heating Degree Days, Percent of Normal
Spokane, Washington



30-year Rolling Average Spokane HDD

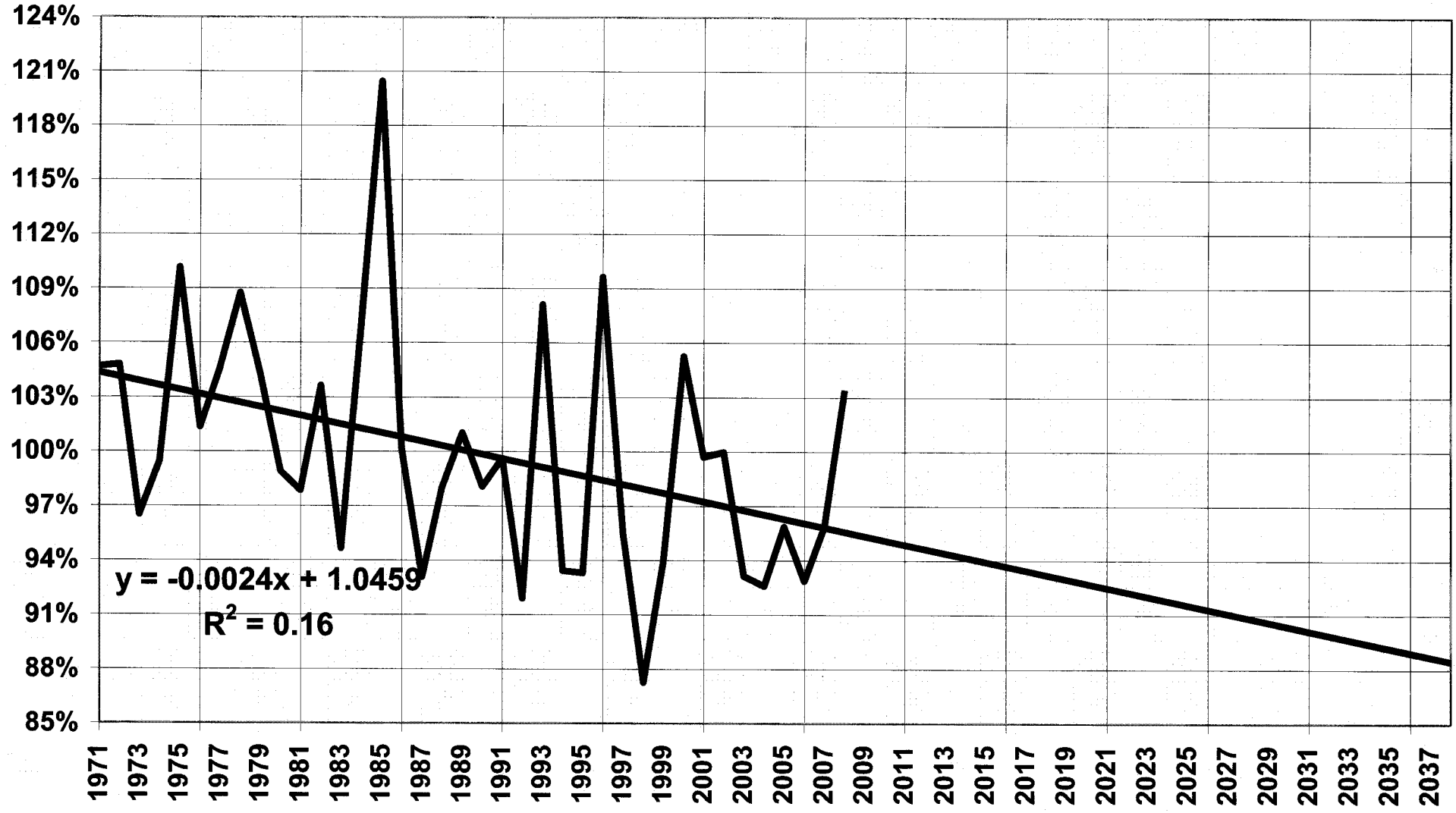


1971-2007 Spokane HDD Trend

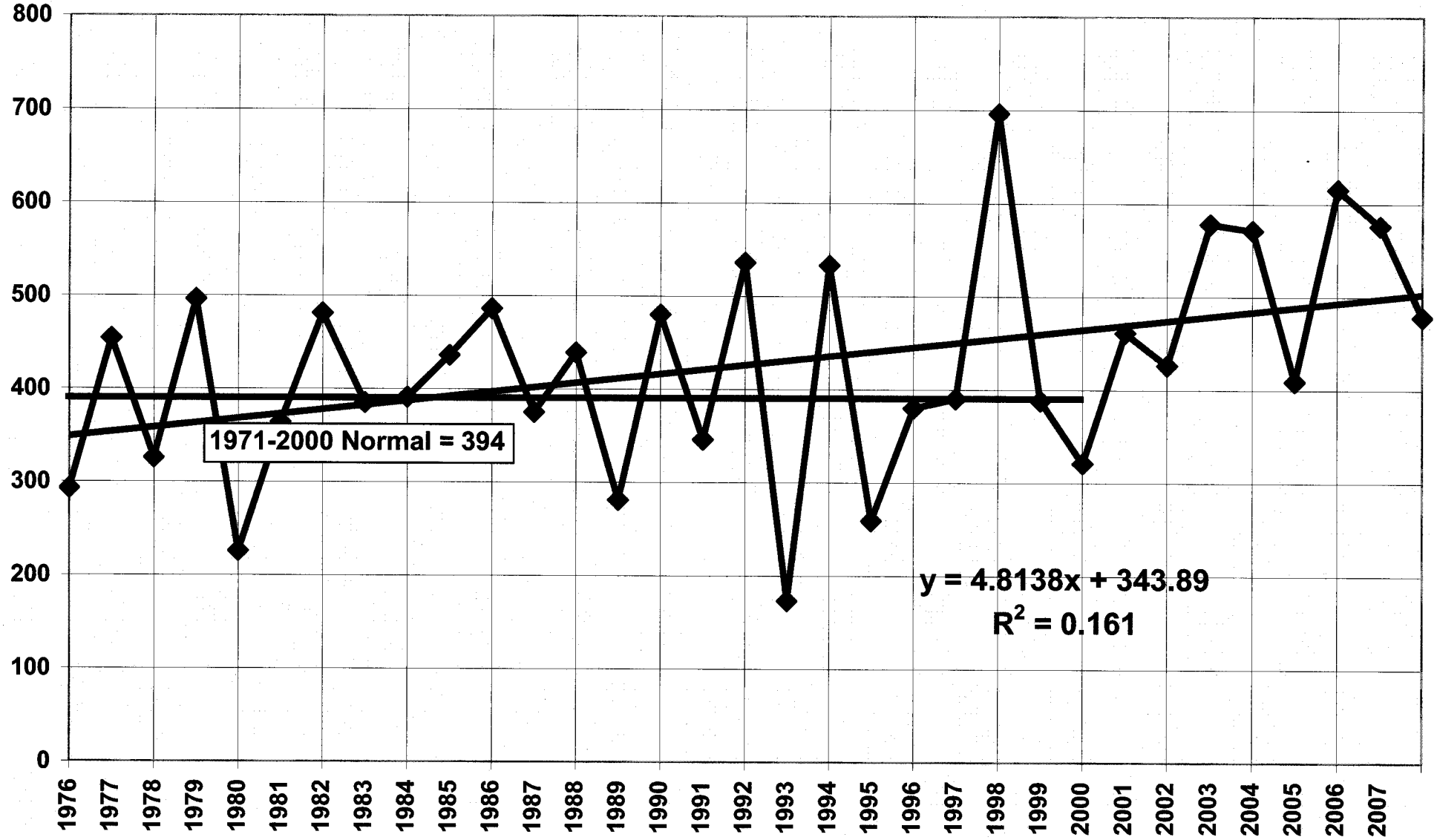


HDD Trends 1971-2007 and Projected 30 Years

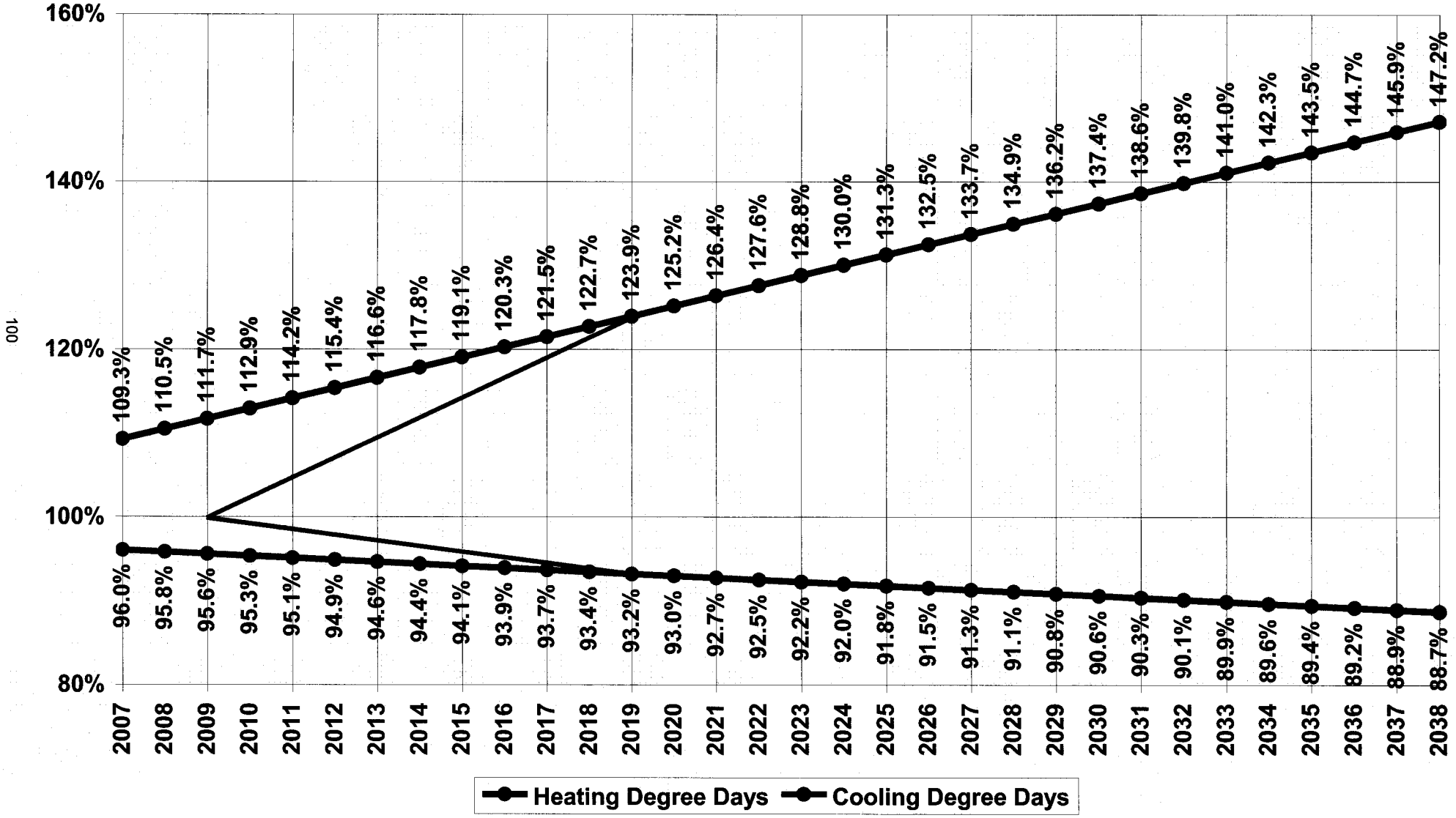
Spokane, Washington



1976-2007 Cooling Degree Day Trends

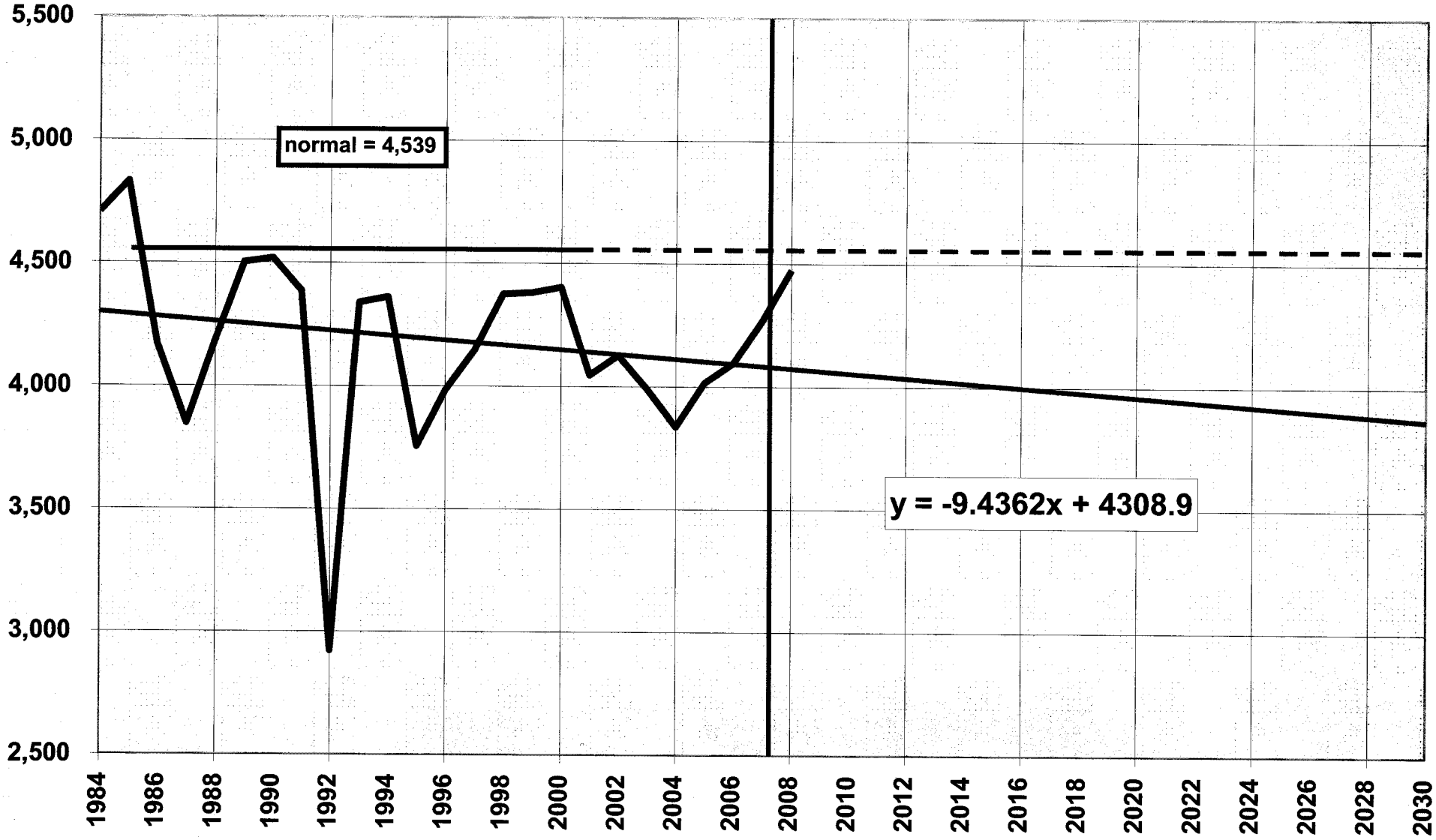


Spokane NWS Global Warming Degree Day Trends
2007-2038

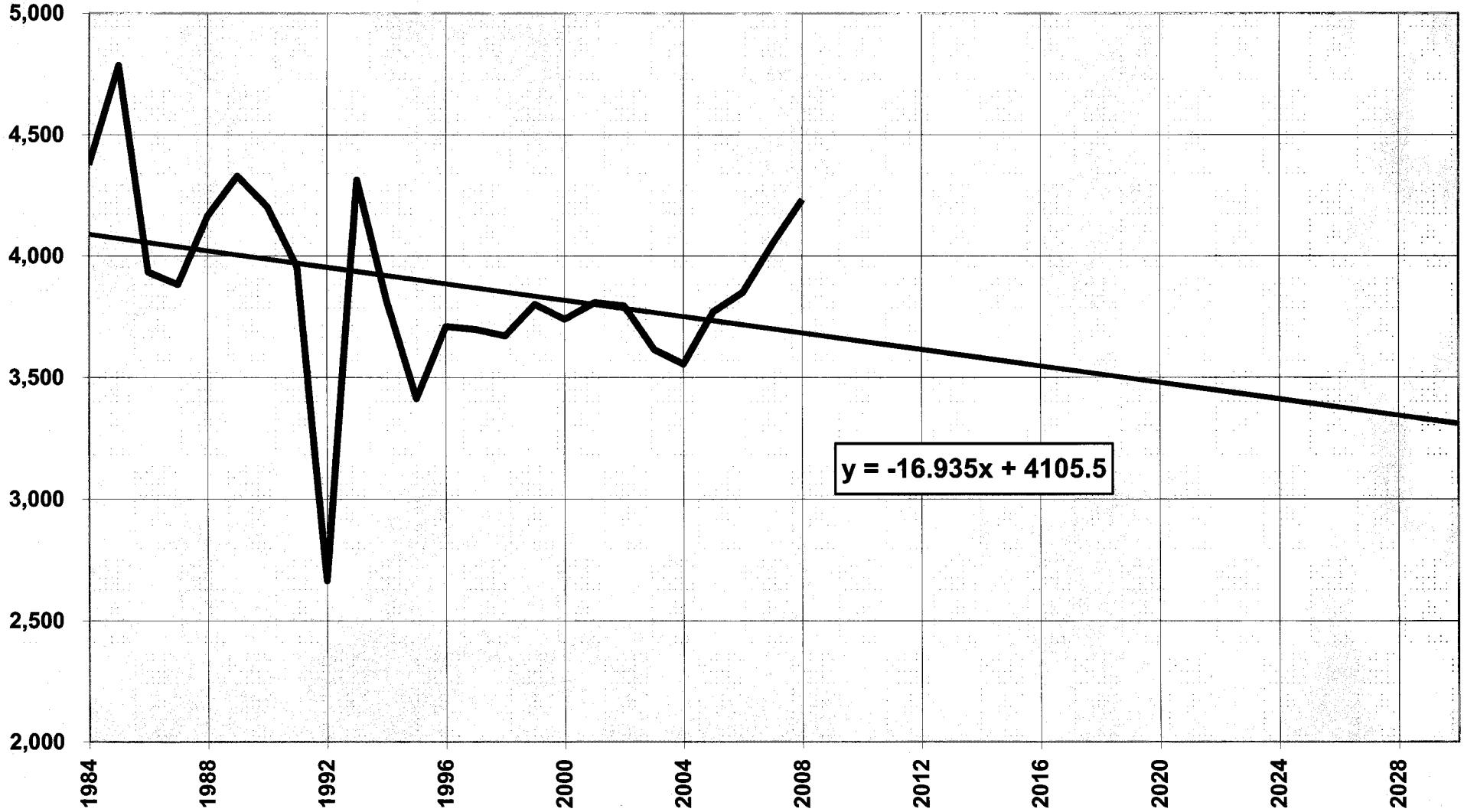


Medford Heating Degree Day Trends

excluding Summer

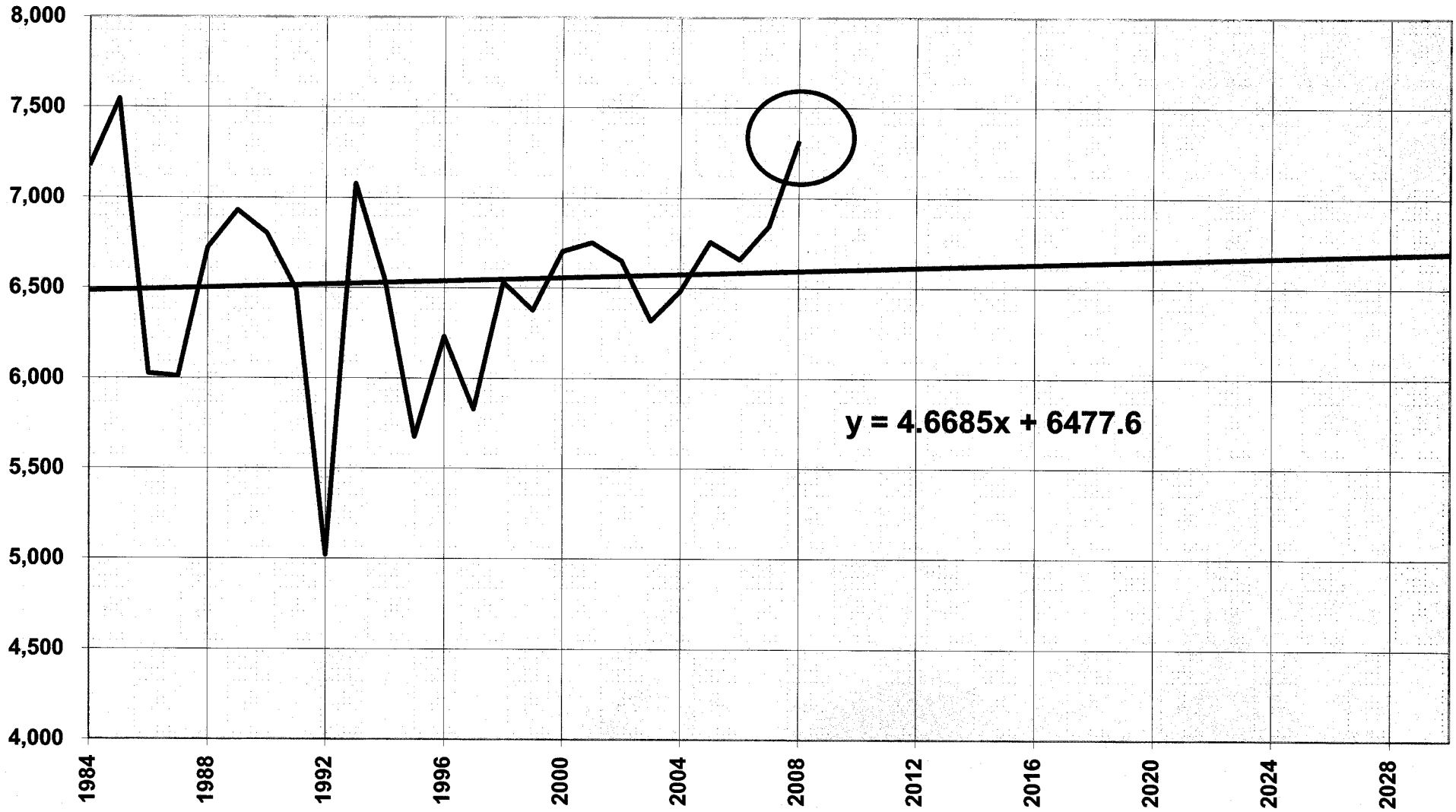


Roseburg HDD Trends
excluding Summer



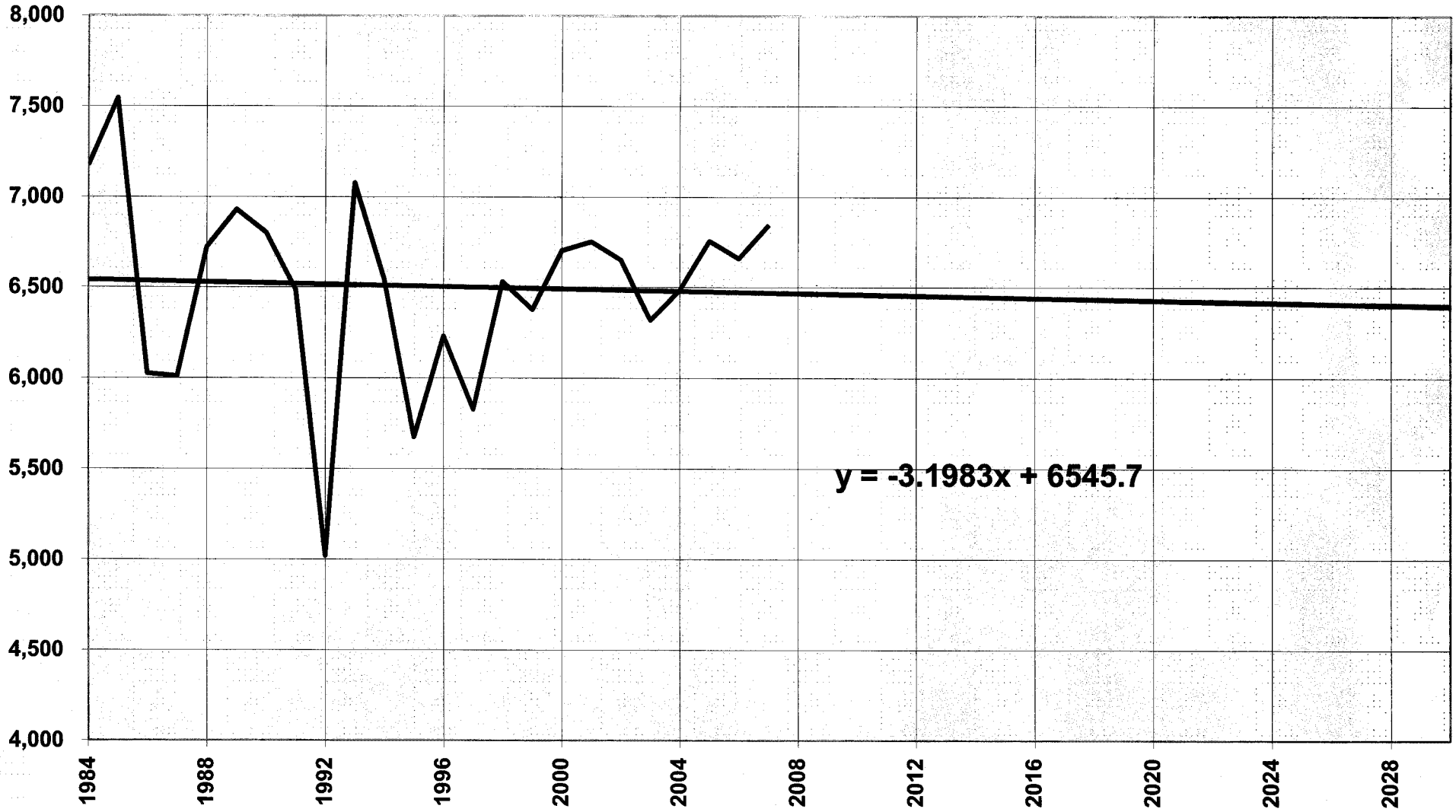
Klamath Falls HDD Trends

excluding Summer

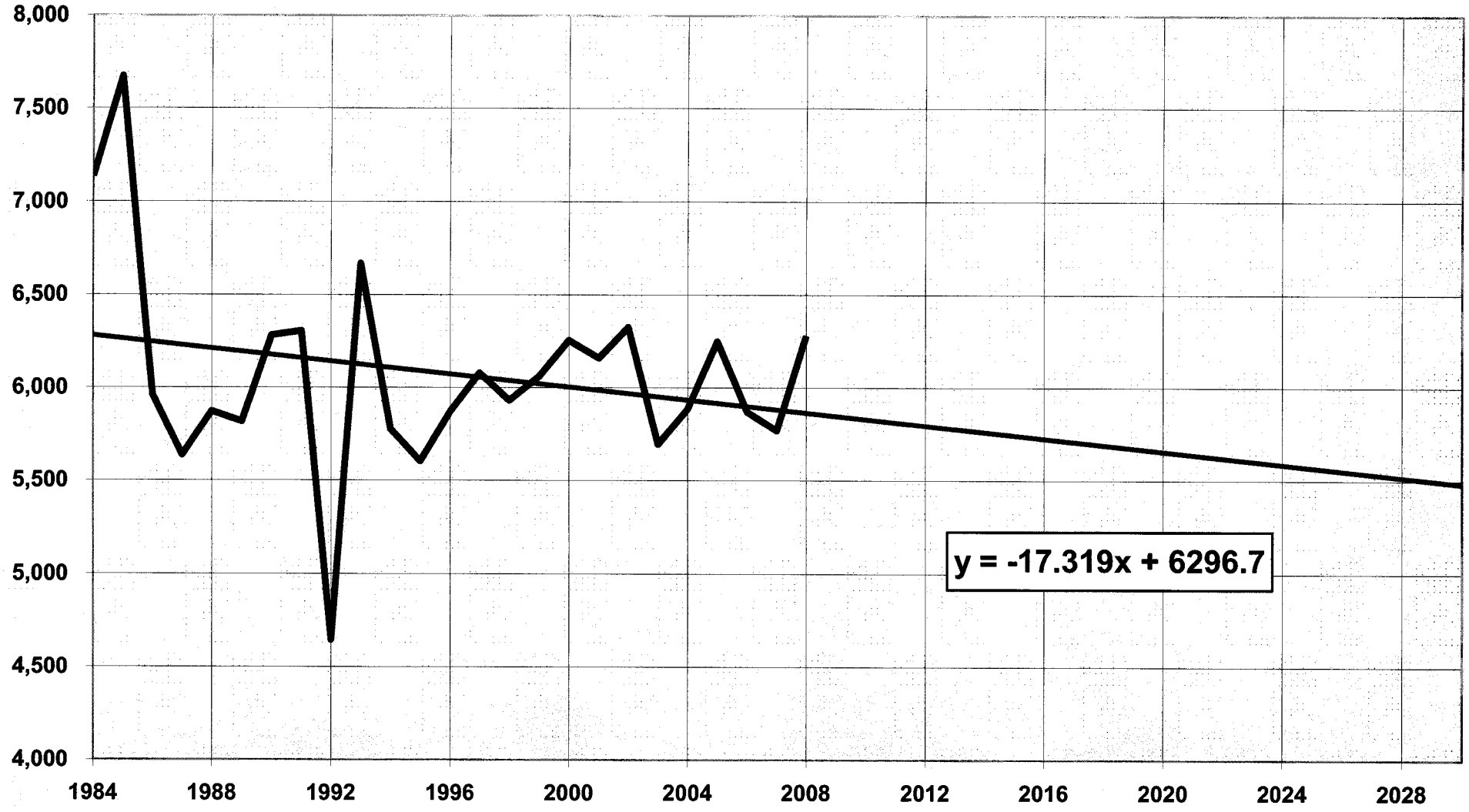


Klamath Falls HDD Trends

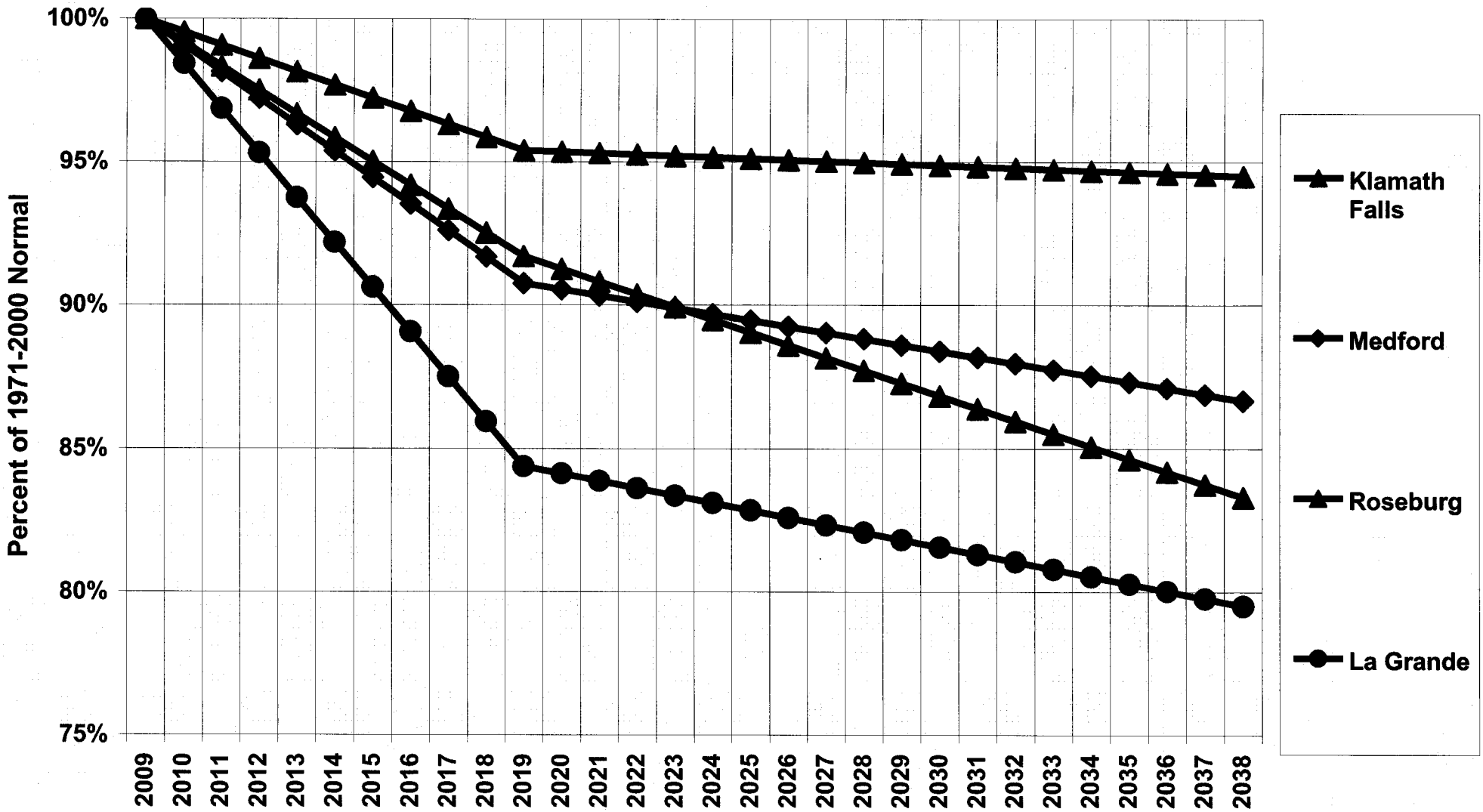
excluding Summer



La Grande HDD Trends
excluding Summer



Oregon Degree Day Trends



APPENDIX 3.6

ALTERNATE DEMAND SCENARIOS SUMMARY OF ASSUMPTIONS

Appendix 3.6 – Sensitivities

Demand Influencing (Direct)

Summary of Assumptions

Model Sensitivities			DEMAND INFLUENCING - DIRECT							
		Reference Case	Low Cust Growth	High Cust Growth	Cold Day 20yr Weather Std	CNG Vehicles	1HDD Lower Weather Std	Northern Migration	Stagnant Growth	Global Warming
INPUT ASSUMPTIONS										
Customer Growth Rate										
Residential	WA/ID	2.2%								
Residential	Medford	2.6%								
Residential	Roseburg	3.6%								
Residential	Klamath	1.9%	50% Decrease in Cust Growth Rates	50% Increase in Cust Growth Rates				???	???	
Residential	La Grande	1.4%								
Commercial	WA/ID	2.3%								
Commercial	Medford	1.2%								
Commercial	Roseburg	2.1%								
Commercial	Klamath	1.9%								
Commercial	La Grande	0.6%								
Use per Customer		Flat				15% Growth Cumulative				
Weather										
Planning Standard		Coldest Day			Coldest 20yrs		Coldest-1HDD			???
Prices										
Price curve		Expected								
Elasticity		None								
Carbon Adder ($/Ton)		None								
Coal to Gas Adder ($/Dth)		None								
Cdn Imports Decline Adder										
Drilling Constraints ($/Dth)										
First Year Unserved										
WA/ID		2027	N/A	2019	N/A	2026	2028			
Medford		2017	2025	2015	2018	2016	2017	???	???	???
Klamath		2018	N/A	2015	2018	2017	2019			
La Grande		N/A	N/A	2019	2024	2022	2025			

= Did Not full cycle model

Appendix 3.6 – Sensitivities

Price Influencing (Indirect)

Summary of Assumptions

Model Sensitivities		Reference Case	Expect Elasticity	Low Elasticity	High Elasticity	Low Prices	High Prices	Carbon Mitigate 1	Carbon Mitigate 2	Cdn Imports Decline	Drilling Constraints
INPUT ASSUMPTIONS											
Customer Growth Rate											
Residential	WA/ID	2.2%									
Residential	Medford	2.6%									
Residential	Roseburg	3.6%									
Residential	Klamath	1.9%									
Residential	La Grande	1.4%									
Commercial	WA/ID	2.3%									
Commercial	Medford	1.2%									
Commercial	Roseburg	2.1%									
Commercial	Klamath	1.9%									
Commercial	La Grande	0.6%									
Use per Customer		Flat									
Weather											
Planning Standard		Coldest Day									
Prices											
Price curve		Expected	Expected	Expected	Expected	Low	High	Expected	Expected	Expected	Expected
Elasticity		None	Expected	Low	High	Expected	Expected	Expected	Expected	Expected	Expected
Carbon Adder ($/Ton)		None						$5-$67	$37-$140		
Coal to Gas Adder ($/Dth)		None						$.50-$1.00	$.50-$1.00		
Cdn Imports Decline Adder										$.20 incremental	
Drilling Constraints ($/Dth)											$0.30
First Year Unserved											
WA/ID		2027	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Medford		2017	2022	2017	N/A	2019	2024	2019	2020	2021	2021
Klamath		2018	2027	2020	N/A	2022	N/A	2022	2022	2025	2025
La Grande		N/A	N/A	2026	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Appendix 3.6 – Demand Scenarios

Summary of Assumptions

Scenarios	Expected Case	Low Growth & High Prices	High Growth & Low Prices	Green Future	Alternate Weather Std	Supply Constraints
INPUT ASSUMPTIONS						
Customer Growth Rate	Reference Case Cust Growth Rates	50% Decrease in Cust Growth Rates	50% Increase in Cust Growth Rates	Reference Case Cust Growth Rates	Reference Case Cust Growth Rates	Reference Case Cust Growth Rates
Use per Customer	Flat + Price Elast.	Flat + Price Elast.	Flat + Price Elast.	Flat + Price Elast.	Flat + Price Elast.	Flat + Price Elast.
Weather						
Planning Standard	Coldest Day	Coldest Day	Coldest Day	Coldest Day	CD 20 yrs	Coldest Day
Prices						
Price curve	Expected	High	Low	Expected	Expected	High
Elasticity	Low	High	Low	High	Low	Expected
Carbon Adder ($/Ton)	$5-$67	$5-$67	$5-$67	$37-$140	$5-$67	$5-$67
Coal to gas adder ($/Dth)	$.50-$1.00	$.50-$1.00	$.50-$1.00	$.50-$1.00	$.50-$1.00	$.50-$1.00
Drilling Constraints ($/Dth)	None	$0.30	None	$0.30	None	$0.30
Declining Canada Gas ($/Dth)	None	None	None	None	None	$.20-$3.00
RESULTS						
First Year Unserved						
WA/ID	2020	N/A	2014	N/A	2026	N/A
Medford	2018	N/A	2015	2027	2020	2027
Klamath	2021	N/A	2016	N/A	2021	N/A
La Grande	2029	N/A	2018	N/A	2029	N/A

APPENDIX 3.7

ALTERNATE DEMAND SCENARIOS DESCRIPTIONS

Appendix 3.7

Avista 2009 Natural Gas IRP Demand Forecast Sensitivities and Scenarios Update

A. Definitions

Dynamic Demand Methodology – Avista's demand forecasting approach wherein we 1) identify key demand drivers behind natural gas consumption, 2) perform sensitivity analysis on each demand driver, and 3) combine demand drivers under various scenarios to develop alternative potential outcomes for forecasted demand.

Demand Influencing Factors – Factors that directly influence the volume of natural gas consumed by our core customers.

Price Influencing Factors – Factors that, through price elasticity response, indirectly influence the volume of natural gas consumed by our core customers.

Reference Case – A baseline point of reference that captures the basic inputs for determining a demand forecast in SENDOUT which includes number of customers, use per customer, daily weather temperatures and natural gas prices.

Sensitivities – Focused analysis of a specific natural gas demand driver and its impact on forecasted demand relative to the Reference Case when underlying input assumptions are modified.

Scenarios – Combination of natural gas demand drivers that make up a demand forecast.

B. Reference Case Input Assumptions

Customer growth rates reflect roll up of underlying county level growth rate analysis utilizing Global Insights forecast data (see **Tables & Graphs**, *Figure 1* below). Initial use per customer is based on historical analysis of last three years data. Peak Day weather reflects coldest average daily temperature experienced over available weather data. Natural gas price curve derived from independent consultant forecast (Wood Mackinzie, an industry information & analysis consultant) with first five years modified to include blend of recent market prices (Nymex forward prices). The resulting real price forecast (2009$) is included in *Figure 2*.

C. Sensitivities

The following Sensitivities were performed on identified demand drivers against the reference case for consideration in Scenario development. Note that Sensitivity assumptions reflect incremental adjustments we estimate are not captured in the underlying reference case forecast.

Low & High Customer Growth – In our low customer growth Sensitivity, annual customer growth rates under perform the reference rate of growth by 50% over our 20 year planning horizon while annual customer growth rates exceed the reference rate by 50% in our high growth Sensitivity (*Figure 1*).

Coldest Day 20yrs Weather Standard – Peak Day weather temperature reduced to coldest average daily temperature (HDDs) experienced in the most recent 20 years in each region. Note this sensitivity only affects our WA/ID, Medford and Roseburg service regions as Klamath Falls and La Grande have experienced a coldest day on record within the last 20 years.

Low & High Prices – To capture a wide band of alternative prices forecasts, we use the Northwest Power and Conservation Council's "very low" and "very high" natural gas price forecast scenarios with first five years modified to include blend of recent market prices (Nymex forward prices) consistent with our Expected price forecast (*Figure 2*).

Expected, Low, and High Elasticity – For our expected elasticity Sensitivity, we incorporate reduced consumption in response to higher natural gas prices utilizing a price elasticity study prepared by the American Gas Association. We then consider a lower response rate to the study as well as a higher response. We also consider a wider band of response in especially volatile prices defined as annual price increases exceeding 30% (*Figure 3*).

Carbon Mitigation 1 – Utilizes carbon cost adders quantified by independent analysis from Wood Mackenzie. They identify both an adder reflecting carbon allowances as well as an adder to capture the effect of increased natural gas demand as more gas turbines come online to replace coal plants and back up wind generation. The allowance adder escalates from $5/ton in 2012 to $67/ton by 2030 while the increased demand adder climbs from $.50/mmbtu to $1.00 over our planning horizon (*Figure 4*).

Carbon Mitigation 2 – Recognizing significant uncertainty exists regarding the amount, scope, and timing of carbon regulation, we utilize a second alternate range of cost adders to develop a high carbon cost case. We escalate an allowance adder from $37/ton in 2012 to $140/ton by 2030 as forecasted in a Pacific Northwest electric utility's integrated resource plan. The increased demand adder is consistent with our **Carbon Mitigation 1** case.

Canadian Imports Decline – Beginning in 2015, we apply an estimate of $.20/mmbtu *incremental* adder each year to regional natural gas prices to capture upward price

pressure because of decreased Canadian imports more severe than generally anticipated. The cumulative cost adder by the end of our planning horizon is $3.00/mmbtu. After discussion with the TAC, we dropped further analysis of our initial most severe imports decline case of $.50/mmbtu incremental each year as we concluded this type of price increase would support several supply responses (including frontier gas pipelines) which would curtail such a long term price increase.

Drilling Constraints –This price adder estimates the impact from increased costs to comply with potential increased environmental regulations. Significant uncertainty exists regarding potential costs, impacts on production and timing of more stringent regulation. Also, it is very difficult to ascertain to what degree these types of costs are already captured in forward market prices and various price forecasts. In light of this challenge, we have assumed a $.30/mmbtu adder in each year from 2012 to 2030 for this Sensitivity recognizing the wide range of actual outcomes.

*****

Following are other Sensitivities we evaluated:

Compressed Natural Gas (CNG) Vehicles – CNG vehicles assumed to produce a 15% cumulative incremental demand over our 20 year planning horizon. Our assumption utilized market consumption estimates from an independent analysis on CNG vehicle viability. The analysis indicates significant challenges exist to widespread adoption but did provide a scenario for significant market penetration (10% in 10 years). Although we concur significant system demand from CNG vehicle purchases in our service territories is unlikely at this time, we were motivated to run this sensitivity to learn how our system would respond to an emerging application that would grow significant new natural gas demand. This sensitivity, although instructive on understanding underlying incremental change in demand, is not currently used in any Scenario.

1HDD Lower Weather Standard – Peak Day weather temperature is reduced by 1 heating degree (Fahrenheit) in each service region. This sensitivity, although instructive on understanding underlying incremental change in demand, is not used in any Scenario.

Northern Migration – Economic and water issues in south western states spur increased migration to Pacific Northwest states. After discussion, it was determined that the **High Customer Growth** sensitivity would likely encompass this sensitivity's demand impacts therefore we did not pursue further analysis.

Stagnant Growth – Current economic conditions spur much slower and possibly negative customer growth rates for an extended period with a return to trend rates at some point. It was noted that we have not experienced widespread negative growth in our actual recent data. Our significant residential customer base has historically been very stable and not prone to extreme boom or bust cycles in four of our five service regions. Medford/Roseburg would appear most vulnerable to a severe impact though a sustained negative growth trend appears remote. Also noted were the very low long term growth

rates in our **Low Customer Growth** sensitivity. After discussion, it was determined that the **Low Customer Growth** sensitivity would likely encompass this sensitivity's demand impacts therefore we did not pursue further analysis.

Global Warming – Adjust the regional peak day weather temperatures lower to account for global warming. Although we have developed analysis supporting adjustment to historical average daily temperatures for our forecasted average daily temperatures, we searched unsuccessfully for information that would provide a basis for adjusting peak day temperatures. Our data does suggest more volatile temperatures recently but is inconclusive on a trend of lower (or higher) peak temperatures. One TAC member provided information from a study that could not conclude global warming influenced peak day temperatures. Another TAC member offered reliable assessments of global warming applied to specific service regions would be challenging given local weather dynamics and conjectured overall global warming weather dynamics might produce possible peak day cooling trends for regions situated in transition areas. After discussion and feedback, we determined that a reliable basis for global warming temperature adjustment is too uncertain. We also believe the **Atlernate Weather Standard** sensitivity may encompass many possible demand impacts for this sensitivity therefore we did not pursue further analysis.

*****

The following two DSM Sensitivities were also conducted:

DSM Accelerated – Federal stimulus funded residential audit programs and tax credits in combination with our program rebates induce increased conservation in 2010 beyond what is assumed in the IRP base case.

DSM Delayed – A combination of reduced customer disposable income from the economic recession and a freeze in customer incentives due to Avista budget constraints result in a reduction in energy-efficiency measures from what is assumed in the IRP base case.

D. Scenarios

After identifying the above demand drivers and analyzing the various Sensitivities, we have developed the following demand forecast Scenarios:

Expected Case – This Scenario we believe represents the most likely demand forecast modeled. We assume service territory customer growth rates consistent with the reference case, a weather standard of coldest day on record in each service territory, our middle range natural gas price forecast (Consultant #1), low price elasticity, and the CO2 cost adders from our **Carbon Mitigation 1 (CM1)** Sensitivity. The Scenario does not include incremental cost adders for declining Canadian imports or drilling restrictions beyond what is incorporated in the selected price forecast.

High Growth, Low Price – This Scenario models a rapid return to robust growth in part spurred on by low energy prices. We assume customer growth rates 50% higher than the reference case, coldest day on record weather standard, our low natural gas price forecast, low price elasticity, and CO2 adders from **CM1**. The Scenario does not include incremental cost adders for declining Canadian imports or drilling restrictions beyond what is incorporated in the selected price forecast.

Low Growth, High Price – This Scenario models an extended period of slow economic growth in part resulting from high energy prices. We assume customer growth rates 50% lower than the reference case, coldest day on record weather standard, our high natural gas price forecast, high price elasticity, and CO2 adders from our **Carbon Mitigation 1 Sensitivity (CM1)**. The Scenario also includes a incremental cost adder for drilling restrictions.

Green Future – This Scenario models a moderate return to economic growth consistent with our Expected Case while striving for environmentally friendly objectives. We assume service territory customer growth rates consistent with the reference case, a weather standard of coldest day on record in each service territory, and our middle range natural gas price forecast but with price adjustments including the CO2 cost adders from **CM2**, and drilling restrictions. We also assume our high elasticity response to rising prices.

Alternate Weather Standard – This Scenario models all the same assumptions as the **Expected Case** Scenario except for the change in the weather planning standard from coldest day on record to coldest day in 20 years for each service territory. As noted in the Sensitivity analysis, this change does not affect the Klamath Falls and La Grande service territories which have each experienced their coldest day on record within the last 20 years.

Supply Constraints – This Scenario models an extended period of slow economic growth in part resulting from high energy prices. We assume customer growth rates 50% lower than the reference case, coldest day on record weather standard, our high natural gas price forecast, medium price elasticity, and CO2 adders from our **Carbon Mitigation 1 Sensitivity (CM1)**. The Scenario also includes incremental cost adders for declining Canadian imports and drilling restrictions.

E. Tables & Graphs

Figure 1 – Customer Growth Rates

Customer Growth Rates

		Reference Case	Low Cust Growth	High Cust Growth
Residential	WA/ID	2.2%		
Residential	Medford	2.6%		
Residential	Roseburg	3.6%		
Residential	Klamath	1.9%	50% Decrease in Cust Growth Rates	50% Increase in Cust Growth Rates
Residential	La Grande	1.4%		
Commercial	WA/ID	2.3%		
Commercial	Medford	1.2%		
Commercial	Roseburg	2.1%		
Commercial	Klamath	1.9%		
Commercial	La Grande	0.6%		

Figure 2 – Henry Hub Natural Gas Price Forecasts (2009$)

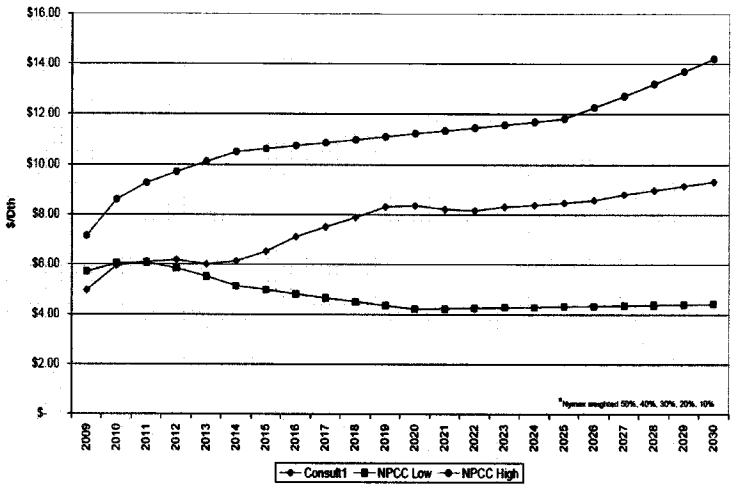
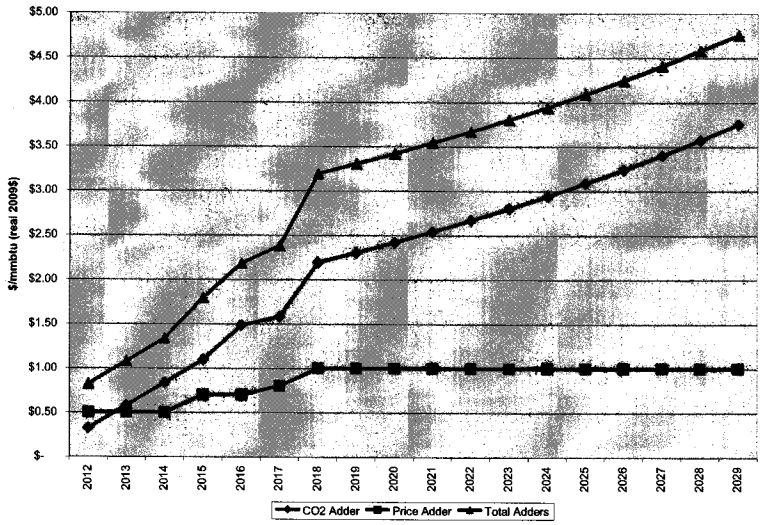


Figure 3 – Price Elasticity Factors

	Real Price annual increase within 30%	Real Price annual increase exceeds 30%
High	Negative .20	Negative .30
Expected	Negative .13	Negative .13
Low	No response	Negative .10

Figure 4 –Carbon Cost Adders (Carbon Mitigation 1)



APPENDIX 3.8

ANNUAL AND PEAK DAY DEMAND DATA

Appendix 3.8 - Annual Demand, Average Day Demand and Peak Day Demand (Net of DSM)

Case	Gas Year	Annual Demand Klamath (MDth)	Daily Demand Klamath (MDth/day)	Peak Day Klamath (MDth/day)	Annual Demand La Grande (MDth)	Daily Demand La Grande (MDth/day)	Peak Day La Grande (MDth/day)	Annual Demand Medford/Roseburg (MDth)	Daily Demand Medford/Roseburg (MDth/day)	Peak Day Medford/Roseburg (MDth/day)
High	2009-2010	1,340.72	3.673	12.577	770.71	2.112	7.882	6,720.22	18.412	70.11
High	2010-2011	1,362.56	3.733	12.668	756.85	2.074	7.843	6,740.68	18.468	70.34
High	2011-2012	1,412.17	3.858	13.097	760.50	2.078	7.989	6,931.09	18.937	72.20
High	2012-2013	1,456.60	3.991	13.610	763.86	2.093	8.135	7,164.78	19.630	75.56
High	2013-2014	1,488.65	4.078	14.156	766.61	2.100	8.260	7,412.83	20.309	78.80
High	2014-2015	1,523.77	4.175	14.535	766.98	2.101	8.383	7,667.70	21.007	82.16
High	2015-2016	1,560.02	4.262	14.852	769.78	2.103	8.478	7,918.70	21.636	85.40
High	2016-2017	1,593.14	4.365	15.232	770.41	2.111	8.600	8,146.22	22.318	88.84
High	2017-2018	1,627.06	4.458	15.610	770.44	2.111	8.726	8,352.58	22.884	92.14
High	2018-2019	1,658.91	4.545	15.991	770.55	2.111	8.847	8,538.84	23.394	95.27
High	2019-2020	1,695.62	4.633	16.369	777.50	2.124	8.973	8,773.99	23.973	98.26
High	2020-2021	1,730.59	4.741	16.750	784.74	2.150	9.095	9,000.59	24.659	101.30
High	2021-2022	1,768.46	4.845	17.132	793.60	2.174	9.217	9,218.80	25.257	104.32
High	2022-2023	1,807.17	4.951	17.514	802.96	2.200	9.345	9,461.76	25.923	107.35
High	2023-2024	1,848.58	5.051	17.906	812.32	2.219	9.473	9,710.37	26.531	110.41
High	2024-2025	1,886.39	5.168	18.297	820.97	2.249	9.604	9,928.93	27.203	113.50
High	2025-2026	1,925.47	5.275	18.690	829.89	2.274	9.733	10,147.89	27.802	116.43
High	2026-2027	1,965.33	5.384	19.081	839.46	2.300	9.865	10,362.38	28.390	119.25
High	2027-2028	2,005.57	5.480	19.475	850.19	2.323	9.993	10,590.38	28.935	122.07
High	2028-2029	2,042.90	5.597	19.868	856.91	2.348	10.126	10,784.57	29.547	124.89

Case	Gas Year	Annual Demand Oregon (MDth)	Daily Demand Oregon (MDth/day)	Peak Day Demand Oregon (MDth/day)	Annual Demand WA/ID (MDth)	Daily Demand WA/ID (MDth/day)	Peak Day WA/ID (MDth/day)	Annual Demand Total System (MDth)	Daily Demand Total System (MDth/day)	Peak Day Demand Total System (MDth/day)
High	2009-2010	8,831.658	24.196	90.573	26,676.459	73.086	279.384	35,508.117	97.283	369.957
High	2010-2011	8,860.096	24.274	90.855	26,733.275	73.242	279.897	35,593.373	97.516	370.752
High	2011-2012	9,103.768	24.874	93.286	27,127.241	74.118	287.303	36,231.009	98.992	380.589
High	2012-2013	9,385.241	25.713	97.310	27,650.283	75.754	294.956	37,035.525	101.467	392.265
High	2013-2014	9,668.089	26.488	101.221	28,293.395	77.516	302.748	37,961.483	104.004	403.969
High	2014-2015	9,958.455	27.283	105.081	28,962.324	79.349	310.536	38,920.778	106.632	415.616
High	2015-2016	10,248.502	28.001	108.731	29,516.994	80.648	316.840	39,765.497	108.649	425.571
High	2016-2017	10,509.774	28.794	112.673	30,027.442	82.267	324.559	40,537.216	111.061	437.231
High	2017-2018	10,750.075	29.452	116.477	30,622.956	83.899	332.552	41,373.031	113.351	449.029
High	2018-2019	10,968.303	30.050	120.108	31,253.974	85.627	340.559	42,222.276	115.677	460.667
High	2019-2020	11,247.113	30.730	123.605	31,976.453	87.367	348.961	43,223.567	118.097	472.566
High	2020-2021	11,515.923	31.550	127.147	32,697.751	89.583	357.585	44,213.675	121.133	484.732
High	2021-2022	11,780.858	32.276	130.671	33,441.452	91.620	366.311	45,222.310	123.897	496.982
High	2022-2023	12,071.896	33.074	134.206	34,206.603	93.717	375.171	46,278.499	126.790	509.377
High	2023-2024	12,371.274	33.801	137.784	35,016.400	95.673	384.021	47,387.674	129.475	521.805
High	2024-2025	12,636.299	34.620	141.397	35,754.261	97.957	393.081	48,390.560	132.577	534.478
High	2025-2026	12,903.252	35.351	144.854	36,578.506	100.215	402.133	49,481.758	135.566	546.987
High	2026-2027	13,167.164	36.074	148.198	37,341.572	102.306	411.069	50,508.736	138.380	559.267
High	2027-2028	13,446.137	36.738	151.536	38,196.855	104.363	420.723	51,642.992	141.101	572.258
High	2028-2029	13,684.391	37.491	154.883	38,985.923	106.811	430.079	52,670.314	144.302	584.962

Appendix 3.8 - Annual Demand, Average Day Demand and Peak Day Demand (Net of DSM)

Case	Gas Year	Annual Demand Klamath (MDth)	Daily Demand Klamath (MDth/day)	Peak Day Klamath (MDth/day)	Annual Demand La Grande (MDth)	Daily Demand La Grande (MDth/day)	Peak Day La Grande (MDth/day)	Annual Demand Medford/Roseburg (MDth)	Daily Demand Medford/Roseburg (MDth/day)	Peak Day Medford/Roseburg (MDth/day)
Low	2009-2010	1,337.12	3.663	12.583	773.82	2.120	7.862	6,701.22	18.360	70.10
Low	2010-2011	1,345.15	3.685	12.641	763.00	2.090	7.870	6,686.26	18.319	70.38
Low	2011-2012	1,314.43	3.591	12.224	732.83	2.002	7.569	6,487.96	17.727	67.93
Low	2012-2013	1,272.33	3.486	11.775	699.75	1.917	7.235	6,295.55	17.248	65.62
Low	2013-2014	1,266.76	3.471	11.695	690.64	1.892	7.226	6,307.21	17.280	65.29
Low	2014-2015	1,272.43	3.486	11.781	683.19	1.872	7.249	6,347.52	17.390	66.17
Low	2015-2016	1,278.76	3.494	11.729	677.97	1.852	7.203	6,386.87	17.450	66.53
Low	2016-2017	1,282.85	3.515	11.784	671.00	1.838	7.212	6,415.18	17.576	67.31
Low	2017-2018	1,287.63	3.528	11.853	663.81	1.819	7.226	6,436.69	17.635	68.13
Low	2018-2019	1,291.00	3.537	11.902	656.79	1.799	7.232	6,450.39	17.672	68.79
Low	2019-2020	1,298.30	3.547	11.974	655.74	1.792	7.247	6,502.85	17.767	69.51
Low	2020-2021	1,304.16	3.573	12.046	654.74	1.794	7.264	6,548.36	17.941	70.24
Low	2021-2022	1,312.31	3.595	12.121	655.32	1.795	7.280	6,590.31	18.056	70.98
Low	2022-2023	1,321.46	3.620	12.204	656.35	1.798	7.302	6,650.98	18.222	71.75
Low	2023-2024	1,332.74	3.641	12.288	657.49	1.796	7.323	6,716.34	18.351	72.53
Low	2024-2025	1,341.39	3.675	12.368	657.99	1.803	7.346	6,766.18	18.535	73.30
Low	2025-2026	1,351.12	3.702	12.453	658.96	1.805	7.367	6,818.80	18.682	74.04
Low	2026-2027	1,361.43	3.730	12.527	660.31	1.809	7.386	6,871.65	18.826	74.70
Low	2027-2028	1,372.00	3.749	12.598	662.70	1.811	7.401	6,933.82	18.945	75.34
Low	2028-2029	1,380.59	3.782	12.670	661.89	1.813	7.419	6,972.19	19.102	75.88

Case	Gas Year	Annual Demand Oregon (MDth)	Daily Demand Oregon (MDth/day)	Peak Day Demand Oregon (MDth/day)	Annual Demand WA/ID (MDth)	Daily Demand WA/ID (MDth/day)	Peak Day WA/ID (MDth/day)	Annual Demand Total System (MDth)	Daily Demand Total System (MDth/day)	Peak Day Demand Total System (MDth/day)
Low	2009-2010	8,812.164	24.143	90.540	26,243.358	71.900	274.715	35,055.522	96.043	365.255
Low	2010-2011	8,794.408	24.094	90.889	26,102.370	71.513	274.092	34,896.775	95.608	364.981
Low	2011-2012	8,535.216	23.320	87.721	25,009.310	68.331	262.543	33,544.526	91.652	350.264
Low	2012-2013	8,267.628	22.651	84.635	23,916.075	65.523	249.615	32,183.701	88.175	334.250
Low	2013-2014	8,264.603	22.643	84.207	23,748.996	65.066	248.402	32,013.599	87.708	332.608
Low	2014-2015	8,303.142	22.748	85.203	23,718.724	64.983	248.483	32,021.865	87.731	333.685
Low	2015-2016	8,343.596	22.797	85.462	23,602.714	64.488	245.559	31,946.310	87.285	331.021
Low	2016-2017	8,359.023	22.929	86.310	23,459.001	64.271	244.962	31,828.023	87.200	331.272
Low	2017-2018	8,388.128	22.981	87.207	23,381.299	64.058	244.815	31,769.427	87.040	332.021
Low	2018-2019	8,398.186	23.009	87.923	23,329.666	63.917	244.158	31,727.851	86.926	332.080
Low	2019-2020	8,456.890	23.106	88.732	23,341.516	63.775	244.151	31,798.406	86.881	332.883
Low	2020-2021	8,507.259	23.308	89.551	23,347.980	63.967	244.216	31,855.238	87.275	333.768
Low	2021-2022	8,557.939	23.446	90.385	23,371.023	64.030	244.378	31,928.962	87.477	334.764
Low	2022-2023	8,628.789	23.641	91.257	23,406.708	64.128	244.685	32,035.498	87.768	335.942
Low	2023-2024	8,706.566	23.788	92.136	23,475.594	64.141	244.863	32,182.160	87.929	336.999
Low	2024-2025	8,764.479	24.012	93.017	23,492.075	64.362	245.064	32,256.554	88.374	338.081
Low	2025-2026	8,828.883	24.189	93.858	23,567.569	64.569	245.288	32,396.452	88.757	339.146
Low	2026-2027	8,893.386	24.365	94.608	23,610.600	64.687	245.235	32,503.986	89.052	339.843
Low	2027-2028	8,968.526	24.504	95.334	23,735.620	64.851	245.845	32,704.146	89.356	341.179
Low	2028-2029	9,014.674	24.698	96.070	23,821.781	65.265	246.380	32,836.455	89.963	342.450

Appendix 3.8 - Annual Demand, Average Day Demand and Peak Day Demand (Net of DSM)

Case	Gas Year	Annual Demand Klamath (MDth)	Daily Demand Klamath (MDth/day)	Peak Day Klamath (MDth/day)	Annual Demand La Grande (MDth)	Daily Demand La Grande (MDth/day)	Peak Day La Grande (MDth/day)	Annual Demand Medford/Roseburg (MDth)	Daily Demand Medford/Roseburg (MDth/day)	Peak Day Medford/Roseburg (MDth/day)
Coldest in 20	2009-2010	1,352.83	3.706	12.714	782.49	2.144	7.980	6,705.62	18.372	67.86
Coldest in 20	2010-2011	1,355.22	3.713	12.632	762.62	2.089	7.865	6,647.39	18.212	67.27
Coldest in 20	2011-2012	1,385.92	3.787	12.901	761.53	2.081	7.953	6,742.72	18.423	68.40
Coldest in 20	2012-2013	1,410.62	3.865	13.230	759.82	2.082	8.045	6,872.22	18.828	70.51
Coldest in 20	2013-2014	1,426.96	3.909	13.581	758.04	2.077	8.121	7,016.72	19.224	72.53
Coldest in 20	2014-2015	1,447.85	3.967	13.822	754.18	2.066	8.196	7,164.50	19.629	74.64
Coldest in 20	2015-2016	1,449.60	3.961	13.802	742.36	2.028	8.116	7,215.42	19.714	75.43
Coldest in 20	2016-2017	1,468.46	4.023	14.038	738.99	2.025	8.189	7,341.97	20.115	77.55
Coldest in 20	2017-2018	1,487.99	4.077	14.274	735.26	2.014	8.263	7,454.14	20.422	79.58
Coldest in 20	2018-2019	1,505.78	4.125	14.509	731.58	2.004	8.336	7,552.67	20.692	81.51
Coldest in 20	2019-2020	1,527.98	4.175	14.746	734.54	2.007	8.410	7,695.62	21.026	83.35
Coldest in 20	2020-2021	1,548.51	4.242	14.981	737.71	2.021	8.484	7,830.69	21.454	85.22
Coldest in 20	2021-2022	1,571.74	4.306	15.218	742.47	2.034	8.558	7,959.91	21.808	87.07
Coldest in 20	2022-2023	1,595.92	4.372	15.458	747.77	2.049	8.634	8,111.05	22.222	88.94
Coldest in 20	2023-2024	1,622.47	4.433	15.705	753.01	2.057	8.713	8,267.14	22.588	90.84
Coldest in 20	2024-2025	1,645.98	4.510	15.953	757.65	2.076	8.793	8,400.13	23.014	92.76
Coldest in 20	2025-2026	1,670.60	4.577	16.202	762.63	2.089	8.874	8,535.62	23.385	94.57
Coldest in 20	2026-2027	1,695.99	4.647	16.450	768.16	2.105	8.954	8,668.45	23.749	96.32
Coldest in 20	2027-2028	1,721.59	4.704	16.699	774.78	2.117	9.034	8,813.14	24.080	98.06
Coldest in 20	2028-2029	1,744.75	4.780	16.948	777.78	2.131	9.114	8,928.54	24.462	99.81

Case	Gas Year	Annual Demand Oregon (MDth)	Daily Demand Oregon (MDth/day)	Peak Day Demand Oregon (MDth/day)	Annual Demand WA/ID (MDth)	Daily Demand WA/ID (MDth/day)	Peak Day WA/ID (MDth/day)	Annual Demand Total System (MDth)	Daily Demand Total System (MDth/day)	Peak Day Demand Total System (MDth/day)
Coldest in 20	2009-2010	8,840.943	24.222	88.557	26,134.146	71.600	252.675	34,975.090	95.822	341.233
Coldest in 20	2010-2011	8,765.222	24.014	87.771	25,834.207	70.779	249.428	34,599.430	94.793	337.199
Coldest in 20	2011-2012	8,890.171	24.290	89.251	25,908.593	70.789	252.868	34,798.763	95.079	342.119
Coldest in 20	2012-2013	9,042.656	24.774	91.781	26,089.316	71.478	256.456	35,131.974	96.252	348.237
Coldest in 20	2013-2014	9,201.719	25.210	94.236	26,382.370	72.280	260.127	35,584.089	97.491	354.363
Coldest in 20	2014-2015	9,366.538	25.662	96.656	26,700.351	73.152	263.800	36,066.888	98.813	360.456
Coldest in 20	2015-2016	9,407.379	25.703	97.348	26,513.151	72.440	262.175	35,920.530	98.144	359.523
Coldest in 20	2016-2017	9,549.419	26.163	99.778	26,687.201	73.116	265.710	36,236.620	99.278	365.489
Coldest in 20	2017-2018	9,677.386	26.513	102.120	26,936.822	73.800	269.412	36,614.208	100.313	371.532
Coldest in 20	2018-2019	9,790.033	26.822	104.355	27,217.476	74.568	273.119	37,007.509	101.390	377.474
Coldest in 20	2019-2020	9,958.131	27.208	106.505	27,574.517	75.340	277.060	37,532.648	102.548	383.565
Coldest in 20	2020-2021	10,116.912	27.718	108.682	27,929.417	76.519	281.155	38,046.329	104.237	389.837
Coldest in 20	2021-2022	10,274.121	28.148	110.851	28,303.189	77.543	285.316	38,577.310	105.691	396.167
Coldest in 20	2022-2023	10,454.739	28.643	113.033	28,693.670	78.613	289.555	39,148.409	107.256	402.588
Coldest in 20	2023-2024	10,642.620	29.078	115.255	29,123.372	79.572	293.788	39,765.991	108.650	409.043
Coldest in 20	2024-2025	10,803.760	29.599	117.502	29,491.036	80.797	298.156	40,294.796	110.397	415.659
Coldest in 20	2025-2026	10,968.847	30.052	119.649	29,931.132	82.003	302.521	40,899.979	112.055	422.170
Coldest in 20	2026-2027	11,132.598	30.500	121.722	30,324.657	83.081	306.816	41,457.255	113.582	428.538
Coldest in 20	2027-2028	11,309.498	30.900	123.795	30,804.986	84.167	311.768	42,114.484	115.067	435.563
Coldest in 20	2028-2029	11,451.065	31.373	125.869	31,234.040	85.573	316.548	42,685.105	116.945	442.417

Appendix 3.8 - Annual Demand, Average Day Demand and Peak Day Demand (Net of DSM)

Case	Gas Year	Annual Demand Klamath (MDth)	Daily Demand Klamath (MDth/day)	Peak Day Klamath (MDth/day)	Annual Demand La Grande (MDth)	Daily Demand La Grande (MDth/day)	Peak Day La Grande (MDth/day)	Annual Demand Medford/Roseburg (MDth)	Daily Demand Medford/Roseburg (MDth/day)	Peak Day Medford/Roseburg (MDth/day)
Supply Constrained	2009-2010	1,352.83	3.706	12.714	782.49	2.144	7.980	6,740.51	18.467	70.44
Supply Constrained	2010-2011	1,278.99	3.504	11.685	718.19	1.968	7.265	6,321.62	17.320	64.58
Supply Constrained	2011-2012	1,293.12	3.533	11.747	708.91	1.937	7.231	6,345.09	17.336	64.63
Supply Constrained	2012-2013	1,304.49	3.574	11.900	700.97	1.920	7.223	6,413.14	17.570	65.80
Supply Constrained	2013-2014	1,308.74	3.586	12.074	693.53	1.900	7.205	6,497.34	17.801	66.90
Supply Constrained	2014-2015	1,327.55	3.637	12.284	690.16	1.891	7.269	6,634.70	18.177	68.82
Supply Constrained	2015-2016	1,318.29	3.602	12.118	673.93	1.841	7.109	6,632.97	18.123	68.71
Supply Constrained	2016-2017	1,327.77	3.638	12.228	667.32	1.828	7.117	6,715.59	18.399	70.09
Supply Constrained	2017-2018	1,339.61	3.670	12.357	661.43	1.812	7.136	6,793.69	18.613	71.49
Supply Constrained	2018-2019	1,346.42	3.689	12.440	654.00	1.792	7.129	6,843.05	18.748	72.52
Supply Constrained	2019-2020	1,362.04	3.721	12.586	654.74	1.789	7.159	6,954.23	19.001	73.83
Supply Constrained	2020-2021	1,376.22	3.770	12.736	655.65	1.796	7.192	7,057.83	19.337	75.18
Supply Constrained	2021-2022	1,392.05	3.814	12.877	657.68	1.802	7.220	7,154.14	19.600	76.47
Supply Constrained	2022-2023	1,409.39	3.861	13.027	660.53	1.810	7.254	7,271.79	19.923	77.79
Supply Constrained	2023-2024	1,429.64	3.906	13.191	663.80	1.814	7.295	7,398.16	20.214	79.19
Supply Constrained	2024-2025	1,448.58	3.969	13.326	667.16	1.828	7.350	7,510.15	20.576	80.74
Supply Constrained	2025-2026	1,466.90	4.019	13.542	670.11	1.836	7.392	7,616.65	20.868	82.05
Supply Constrained	2026-2027	1,483.51	4.064	13.675	672.48	1.842	7.417	7,709.81	21.123	83.12
Supply Constrained	2027-2028	1,500.33	4.099	13.804	675.79	1.846	7.441	7,813.03	21.347	84.16
Supply Constrained	2028-2029	1,514.46	4.149	13.932	675.91	1.852	7.464	7,888.96	21.614	85.19

Case	Gas Year	Annual Demand Oregon (MDth)	Daily Demand Oregon (MDth/day)	Peak Day Demand Oregon (MDth/day)	Annual Demand WA/ID (MDth)	Daily Demand WA/ID (MDth/day)	Peak Day WA/ID (MDth/day)	Annual Demand Total System (MDth)	Daily Demand Total System (MDth/day)	Peak Day Demand Total System (MDth/day)
Supply Constrained	2009-2010	8,875.829	24.317	91.131	26,220.981	71.838	274.582	35,096.810	96.156	365.713
Supply Constrained	2010-2011	8,318.804	22.791	83.526	24,370.873	66.770	249.938	32,689.676	89.561	333.464
Supply Constrained	2011-2012	8,347.110	22.806	83.606	24,138.467	65.952	249.057	32,485.577	88.758	332.663
Supply Constrained	2012-2013	8,418.607	23.065	84.919	24,061.976	65.923	249.092	32,480.583	88.988	334.012
Supply Constrained	2013-2014	8,499.604	23.287	86.182	24,097.684	66.021	249.288	32,597.288	89.308	335.471
Supply Constrained	2014-2015	8,652.408	23.705	88.372	24,367.409	66.760	252.452	33,019.816	90.466	340.824
Supply Constrained	2015-2016	8,625.187	23.566	87.934	23,966.825	65.483	247.261	32,592.011	89.049	335.195
Supply Constrained	2016-2017	8,710.677	23.865	89.432	23,962.795	65.651	248.169	32,673.472	89.516	337.591
Supply Constrained	2017-2018	8,794.731	24.095	90.985	24,059.442	65.916	249.642	32,854.172	90.011	340.626
Supply Constrained	2018-2019	8,843.468	24.229	92.090	24,111.136	66.058	250.065	32,954.604	90.287	342.155
Supply Constrained	2019-2020	8,971.000	24.511	93.574	24,327.999	66.470	252.100	33,298.999	90.981	345.673
Supply Constrained	2020-2021	9,089.708	24.903	95.113	24,546.519	67.251	254.388	33,636.227	92.154	349.481
Supply Constrained	2021-2022	9,203.881	25.216	96.562	24,768.553	67.859	256.440	33,972.435	93.075	353.002
Supply Constrained	2022-2023	9,341.713	25.594	98.075	25,015.271	68.535	258.726	34,356.984	94.129	356.801
Supply Constrained	2023-2024	9,491.598	25.933	99.680	25,309.744	69.152	261.179	34,801.342	95.086	360.859
Supply Constrained	2024-2025	9,625.883	26.372	101.468	25,580.405	70.083	264.248	35,206.287	96.456	365.715
Supply Constrained	2025-2026	9,753.664	26.722	102.988	25,876.686	70.895	266.741	35,630.349	97.617	369.729
Supply Constrained	2026-2027	9,865.800	27.030	104.212	26,089.390	71.478	268.463	35,955.190	98.507	372.675
Supply Constrained	2027-2028	9,989.157	27.293	105.406	26,381.226	72.080	270.804	36,370.383	99.373	376.210
Supply Constrained	2028-2029	10,079.331	27.615	106.587	26,617.492	72.925	272.932	36,696.823	100.539	379.519

Appendix 3.8 - Annual Demand, Average Day Demand and Peak Day Demand (Net of DSM)

Case	Gas Year	Annual Demand Klamath (MDth)	Daily Demand Klamath (MDth/day)	Peak Day Klamath (MDth/day)	Annual Demand La Grande (MDth)	Daily Demand La Grande (MDth/day)	Peak Day La Grande (MDth/day)	Annual Demand Medford/Roseburg (MDth)	Daily Demand Medford/Roseburg (MDth/day)	Peak Day Medford/Roseburg (MDth/day)
Green Future	2009-2010	1,352.83	3.706	12.714	782.49	2.144	7.980	6,741.43	18.470	70.44
Green Future	2010-2011	1,322.71	3.624	12.228	743.67	2.037	7.609	6,529.13	17.888	67.58
Green Future	2011-2012	1,343.88	3.672	12.378	737.69	2.016	7.626	6,582.61	17.985	68.10
Green Future	2012-2013	1,359.14	3.724	12.585	731.27	2.003	7.646	6,668.88	18.271	69.59
Green Future	2013-2014	1,369.85	3.753	12.853	726.87	1.991	7.678	6,785.74	18.591	71.22
Green Future	2014-2015	1,389.73	3.807	13.079	723.25	1.982	7.748	6,929.01	18.984	73.27
Green Future	2015-2016	1,329.73	3.633	12.265	679.89	1.858	7.197	6,687.18	18.271	69.54
Green Future	2016-2017	1,334.58	3.656	12.315	670.76	1.838	7.168	6,747.63	18.487	70.59
Green Future	2017-2018	1,343.21	3.680	12.404	663.19	1.817	7.163	6,810.42	18.659	71.75
Green Future	2018-2019	1,351.14	3.702	12.502	656.30	1.798	7.165	6,865.35	18.809	72.88
Green Future	2019-2020	1,364.03	3.727	12.612	655.70	1.792	7.174	6,963.67	19.026	73.98
Green Future	2020-2021	1,378.49	3.777	12.766	656.74	1.799	7.209	7,068.61	19.366	75.36
Green Future	2021-2022	1,396.32	3.826	12.932	659.70	1.807	7.252	7,174.33	19.656	76.79
Green Future	2022-2023	1,414.95	3.877	13.099	663.13	1.817	7.295	7,298.19	19.995	78.22
Green Future	2023-2024	1,434.44	3.919	13.254	666.02	1.820	7.331	7,420.96	20.276	79.57
Green Future	2024-2025	1,453.74	3.983	13.446	669.52	1.834	7.388	7,534.69	20.643	81.14
Green Future	2025-2026	1,471.58	4.032	13.603	672.23	1.842	7.426	7,638.86	20.928	82.42
Green Future	2026-2027	1,489.50	4.081	13.753	675.18	1.850	7.460	7,738.24	21.201	83.59
Green Future	2027-2028	1,507.06	4.118	13.892	678.81	1.855	7.489	7,845.01	21.434	84.69
Green Future	2028-2029	1,522.62	4.172	14.039	679.51	1.862	7.522	7,927.56	21.719	85.84

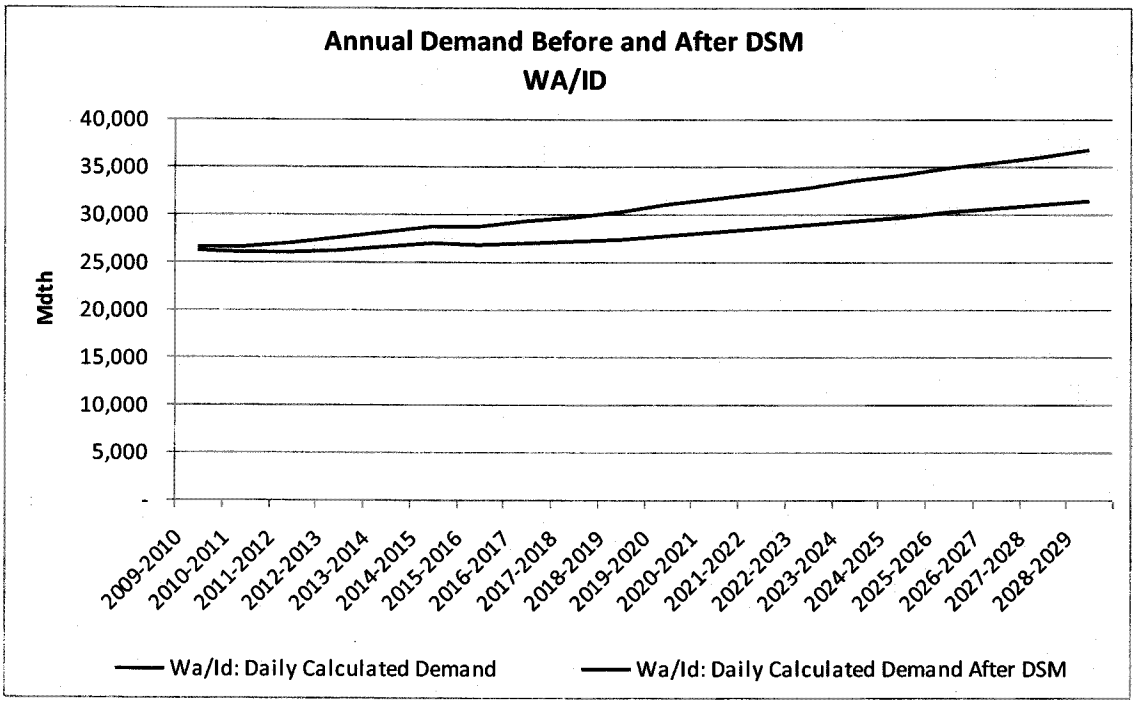
Case	Gas Year	Annual Demand Oregon (MDth)	Daily Demand Oregon (MDth/day)	Peak Day Demand Oregon (MDth/day)	Annual Demand WA/ID (MDth)	Daily Demand WA/ID (MDth/day)	Peak Day WA/ID (MDth/day)	Annual Demand Total System (MDth)	Daily Demand Total System (MDth/day)	Peak Day Demand Total System (MDth/day)
Green Future	2009-2010	8,876.748	24.320	91.133	26,221.195	71.839	274.583	35,097.943	96.159	365.716
Green Future	2010-2011	8,595.502	23.549	87.421	25,259.066	69.203	262.017	33,854.568	92.752	349.438
Green Future	2011-2012	8,664.177	23.673	88.109	25,154.544	68.728	263.103	33,818.721	92.401	351.212
Green Future	2012-2013	8,759.288	23.998	89.820	25,151.067	68.907	264.291	33,910.356	92.905	354.111
Green Future	2013-2014	8,882.456	24.335	91.754	25,324.607	69.382	266.502	34,207.063	93.718	358.256
Green Future	2014-2015	9,041.999	24.773	94.100	25,619.898	70.192	270.087	34,661.898	94.964	364.187
Green Future	2015-2016	8,696.807	23.762	89.000	24,196.578	66.111	250.522	32,893.384	89.873	339.522
Green Future	2016-2017	8,752.969	23.981	90.069	24,097.903	66.022	250.100	32,850.873	90.002	340.169
Green Future	2017-2018	8,816.822	24.156	91.321	24,130.278	66.110	250.658	32,947.100	90.266	341.979
Green Future	2018-2019	8,872.791	24.309	92.542	24,206.037	66.318	251.448	33,078.828	90.627	343.990
Green Future	2019-2020	8,983.401	24.545	93.766	24,368.029	66.579	252.675	33,351.429	91.124	346.441
Green Future	2020-2021	9,103.833	24.942	95.333	24,592.457	67.377	255.025	33,696.291	92.319	350.358
Green Future	2021-2022	9,230.341	25.289	96.977	24,854.409	68.094	257.696	34,084.751	93.383	354.673
Green Future	2022-2023	9,376.272	25.688	98.618	25,127.755	68.843	260.384	34,504.027	94.532	359.002
Green Future	2023-2024	9,521.418	26.015	100.150	25,407.768	69.420	262.620	34,929.186	95.435	362.770
Green Future	2024-2025	9,657.862	26.460	101.977	25,685.438	70.371	265.800	35,343.400	96.831	367.777
Green Future	2025-2026	9,782.670	26.802	103.451	25,972.245	71.157	268.163	35,754.915	97.959	371.614
Green Future	2026-2027	9,902.917	27.131	104.806	26,211.486	71.812	270.278	36,114.403	98.944	375.083
Green Future	2027-2028	10,030.878	27.407	106.074	26,518.640	72.455	272.852	36,549.518	99.862	378.927
Green Future	2028-2029	10,129.690	27.753	107.398	26,784.852	73.383	275.441	36,914.543	101.136	382.839

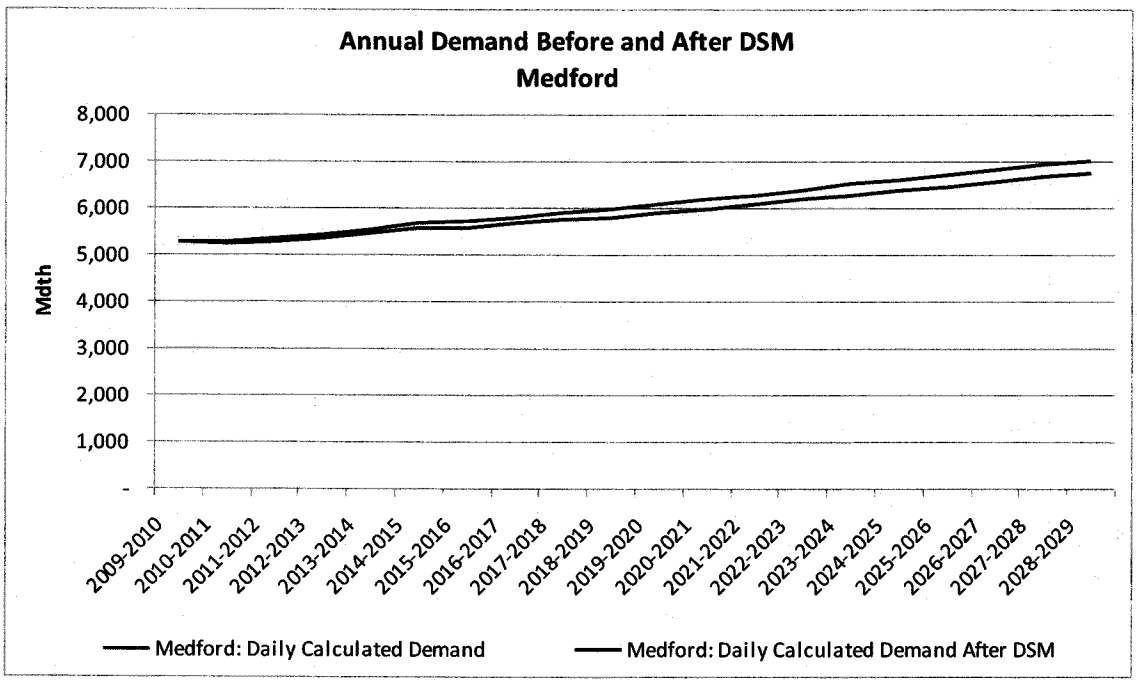
APPENDIX 3.9

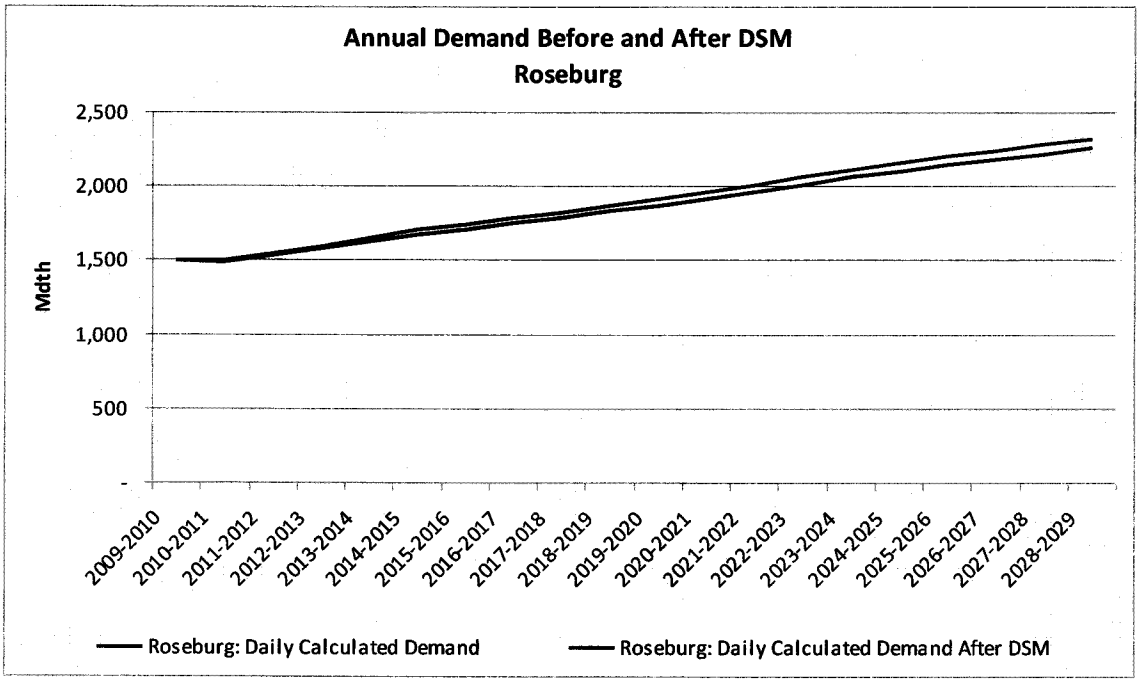
ANNUAL DEMAND BY REGION BEFORE AND AFTER DSM

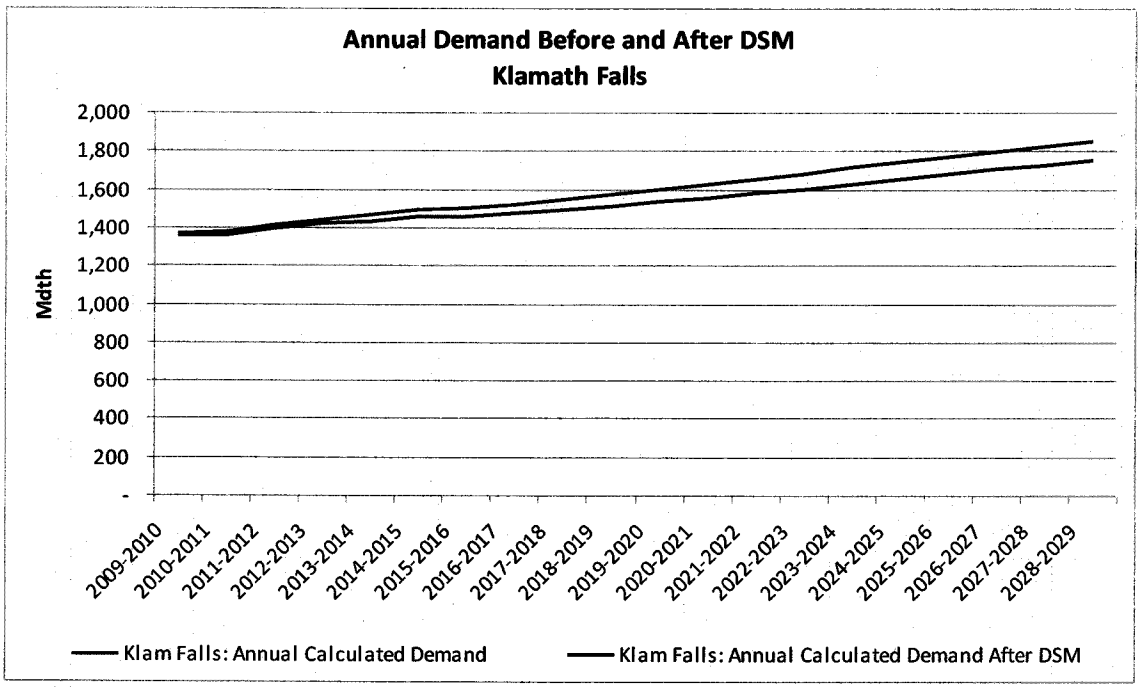
Appendix 3.9 - Annual Demand by Region Before and After DSM

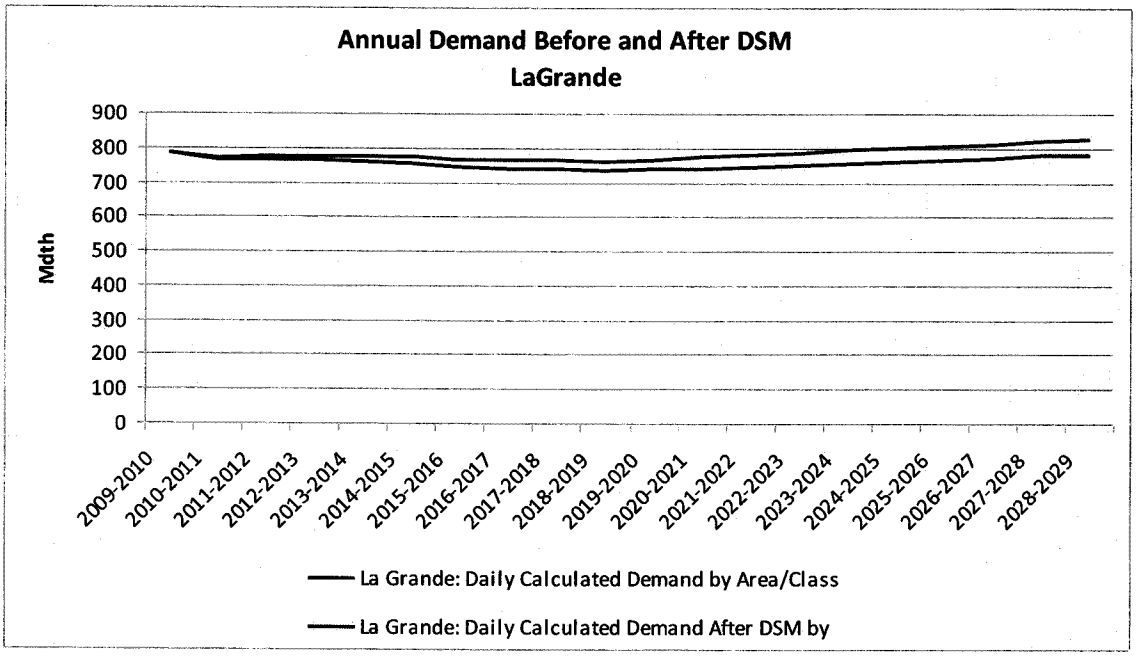
Expected Case (in Mdth)






Annual Demand Before and After DSM
Roseburg
Mdth
2,500
2,000
1,500
1,000
500
-
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
2018-2019
2019-2020
2020-2021
2021-2022
2022-2023
2023-2024
2024-2025
2025-2026
2026-2027
2027-2028
2028-2029
Roseburg: Daily Calculated Demand
Roseburg: Daily Calculated Demand After DSM


Annual Demand Before and After DSM
Klamath Falls
Mdth
2,000
1,800
1,600
1,400
1,200
1,000
800
600
400
200
-
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
2018-2019
2019-2020
2020-2021
2021-2022
2022-2023
2023-2024
2024-2025
2025-2026
2026-2027
2027-2028
2028-2029
Klam Falls: Annual Calculated Demand
Klam Falls: Annual Calculated Demand After DSM


Annual Demand Before and After DSM
LaGrande
Mdth
900
800
700
600
500
400
300
200
100
0
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
2018-2019
2019-2020
2020-2021
2021-2022
2022-2023
2023-2024
2024-2025
2025-2026
2026-2027
2027-2028
2028-2029
La Grande: Daily Calculated Demand by Area/Class
La Grande: Daily Calculated Demand After DSM by

Appendix 3.9 - Annual Demand by Region Before and After DSM

Expected Case (in Mdth)

Gas Year	Wa/Id: Daily Calculated Demand	Wa/Id: Daily Calculated Demand After DSM	Wa/Id: Daily DSM	% of Demand Served by DSM
2009-2010	26,526.09	26,224.90	301.19	1.14%
2010-2011	26,584.84	25,977.00	607.84	2.29%
2011-2012	26,953.24	26,053.00	900.24	3.34%
2012-2013	27,425.32	26,235.81	1,189.51	4.34%
2013-2014	28,010.01	26,531.25	1,478.76	5.28%
2014-2015	28,619.71	26,851.68	1,768.03	6.18%
2015-2016	28,707.45	26,663.92	2,043.53	7.12%
2016-2017	29,155.37	26,839.97	2,315.40	7.94%
2017-2018	29,678.37	27,091.79	2,586.58	8.72%
2018-2019	30,234.41	27,374.74	2,859.67	9.46%
2019-2020	30,871.50	27,734.31	3,137.19	10.16%
2020-2021	31,479.93	28,091.83	3,388.09	10.76%
2021-2022	32,108.14	28,468.23	3,639.91	11.34%
2022-2023	32,753.61	28,861.41	3,892.20	11.88%
2023-2024	33,439.72	29,293.84	4,145.88	12.40%
2024-2025	34,049.31	29,664.20	4,385.11	12.88%
2025-2026	34,738.22	30,107.15	4,631.06	13.33%
2026-2027	35,364.51	30,503.32	4,861.19	13.75%
2027-2028	36,030.35	30,986.56	5,043.79	14.00%
2028-2029	36,641.75	31,418.51	5,223.24	14.25%

Appendix 3.9 - Annual Demand by Region Before and After DSM

Expected Case (in Mdth)

Gas Year	Medford: Daily Calculated Demand	Medford: Daily Calculated Demand After DSM	Medford: DSM	% of Demand Served by DSM
2009-2010	5,271.99	5,254.79	17.19	0.33%
2010-2011	5,247.21	5,210.47	36.74	0.70%
2011-2012	5,320.58	5,266.05	54.53	1.02%
2012-2013	5,421.21	5,350.71	70.49	1.30%
2013-2014	5,535.29	5,448.89	86.40	1.56%
2014-2015	5,649.16	5,547.09	102.07	1.81%
2015-2016	5,686.18	5,568.65	117.53	2.07%
2016-2017	5,785.45	5,652.81	132.64	2.29%
2017-2018	5,875.10	5,727.54	147.56	2.51%
2018-2019	5,949.31	5,787.15	162.16	2.73%
2019-2020	6,064.50	5,886.91	177.60	2.93%
2020-2021	6,172.34	5,979.65	192.69	3.12%
2021-2022	6,271.86	6,065.46	206.40	3.29%
2022-2023	6,387.46	6,169.20	218.25	3.42%
2023-2024	6,503.17	6,275.20	227.97	3.51%
2024-2025	6,605.08	6,369.13	235.95	3.57%
2025-2026	6,705.73	6,462.26	243.48	3.63%
2026-2027	6,813.68	6,562.38	251.29	3.69%
2027-2028	6,925.88	6,666.57	259.30	3.74%
2028-2029	7,010.80	6,744.67	266.12	3.80%

Appendix 3.9 - Annual Demand by Region Before and After DSM

Expected Case (in Mdth)

Gas Year	Roseburg: Daily Calculated Demand	Roseburg: Daily Calculated Demand After DSM	Roseburg: DSM	% of Demand Served by DSM
2009-2010	1,491.78	1,487.33	4.45	0.30%
2010-2011	1,495.81	1,486.30	9.51	0.64%
2011-2012	1,540.63	1,526.74	13.90	0.90%
2012-2013	1,590.67	1,572.84	17.83	1.12%
2013-2014	1,642.17	1,620.42	21.75	1.32%
2014-2015	1,696.96	1,671.32	25.64	1.51%
2015-2016	1,730.65	1,701.12	29.52	1.71%
2016-2017	1,778.11	1,744.82	33.29	1.87%
2017-2018	1,820.37	1,783.45	36.93	2.03%
2018-2019	1,864.07	1,823.47	40.61	2.18%
2019-2020	1,912.12	1,867.80	44.32	2.32%
2020-2021	1,959.32	1,911.33	47.99	2.45%
2021-2022	2,007.29	1,955.88	51.40	2.56%
2022-2023	2,058.62	2,004.47	54.15	2.63%
2023-2024	2,112.05	2,055.76	56.29	2.67%
2024-2025	2,153.90	2,095.99	57.92	2.69%
2025-2026	2,199.00	2,139.49	59.51	2.71%
2026-2027	2,234.05	2,173.29	60.76	2.72%
2027-2028	2,277.19	2,214.90	62.29	2.74%
2028-2029	2,316.90	2,253.26	63.64	2.75%

Appendix 3.9 - Annual Demand by Region Before and After DSM
Expected Case (in Mdth)

Gas Year	Klam Falls: Annual Calculated Demand	Klam Falls: Annual Calculated Demand After DSM	Klam Falls: DSM	% of Demand Served by DSM
2009-2010	1,359.40	1,352.83	6.57	0.48%
2010-2011	1,371.15	1,358.02	13.14	0.96%
2011-2012	1,408.49	1,388.79	19.70	1.40%
2012-2013	1,438.98	1,413.54	25.43	1.77%
2013-2014	1,461.01	1,429.92	31.09	2.13%
2014-2015	1,487.71	1,450.87	36.84	2.48%
2015-2016	1,495.26	1,452.66	42.60	2.85%
2016-2017	1,519.82	1,471.57	48.25	3.17%
2017-2018	1,545.07	1,491.15	53.92	3.49%
2018-2019	1,568.48	1,508.98	59.50	3.79%
2019-2020	1,596.44	1,531.23	65.21	4.08%
2020-2021	1,622.72	1,551.91	70.81	4.36%
2021-2022	1,651.38	1,575.11	76.28	4.62%
2022-2023	1,680.05	1,599.35	80.71	4.80%
2023-2024	1,710.30	1,625.95	84.34	4.93%
2024-2025	1,737.00	1,649.52	87.48	5.04%
2025-2026	1,764.65	1,674.21	90.44	5.13%
2026-2027	1,793.10	1,699.65	93.44	5.21%
2027-2028	1,821.72	1,725.30	96.43	5.29%
2028-2029	1,847.82	1,748.52	99.30	5.37%

Appendix 3.9 - Annual Demand by Region Before and After DSM

Expected Case (in Mdth)

Gas Year	Calculated Demand by Area/Class	Calculated Demand After DSM by Area/Class	La Grande: DSM	% of Demand served by DSM
2009-2010	785.67	782.49	3.17	0.40%
2010-2011	770.51	764.25	6.26	0.81%
2011-2012	772.46	763.16	9.30	1.20%
2012-2013	773.43	761.45	11.99	1.55%
2013-2014	774.29	759.65	14.63	1.89%
2014-2015	772.97	755.79	17.18	2.22%
2015-2016	763.70	743.95	19.75	2.59%
2016-2017	762.77	740.57	22.20	2.91%
2017-2018	761.41	736.82	24.58	3.23%
2018-2019	760.07	733.14	26.93	3.54%
2019-2020	765.55	736.10	29.44	3.85%
2020-2021	771.21	739.28	31.92	4.14%
2021-2022	778.37	744.06	34.32	4.41%
2022-2023	785.61	749.37	36.24	4.61%
2023-2024	792.38	754.62	37.76	4.77%
2024-2025	798.33	759.27	39.06	4.89%
2025-2026	804.52	764.26	40.26	5.00%
2026-2027	811.30	769.80	41.50	5.12%
2027-2028	819.23	776.44	42.79	5.22%
2028-2029	823.31	779.44	43.87	5.33%

APPENDIX 3.10

DETAIL DEMAND DATA

Appendix 3.10 - A
Annual Avg. Demand (Mdth/d)
(Net of DSM Savings)

Updated Expected with Low Elasticity

Area	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
Klam Falls	3.71	3.72	3.79	3.87	3.92	3.97	3.97	4.03	4.09	4.13
La Grande	2.14	2.09	2.09	2.09	2.08	2.07	2.03	2.03	2.02	2.01
Medford GTN	9.93	9.85	9.93	10.12	10.30	10.49	10.50	10.69	10.83	10.94
Medford NWP	4.46	4.43	4.46	4.54	4.63	4.71	4.72	4.80	4.86	4.92
Roseburg	4.07	4.07	4.17	4.31	4.44	4.58	4.65	4.78	4.89	5.00
OR Sub-Total	24.32	24.16	24.44	24.93	25.37	25.82	25.86	26.33	26.68	26.99
Wa/Id Both	41.64	41.23	41.21	41.59	42.04	42.52	42.09	42.46	42.84	43.26
Wa/Id GTN	5.75	5.69	5.69	5.75	5.82	5.89	5.83	5.88	5.94	6.00
Wa/Id NWP	24.45	24.25	24.28	24.54	24.84	25.16	24.94	25.19	25.45	25.73
WA/ID Sub_Total	71.84	71.17	71.18	71.88	72.69	73.57	72.85	73.53	74.22	75.00
Expected Case Total	96.16	95.33	95.62	96.81	98.06	99.39	98.72	99.86	100.91	101.99

High Growth & Low Price

Area	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
Klam Falls	3.67	3.73	3.86	3.99	4.08	4.17	4.26	4.36	4.46	4.55
La Grande	2.11	2.07	2.08	2.09	2.10	2.10	2.10	2.11	2.11	2.11
Medford GTN	9.88	9.89	10.09	10.41	10.73	11.06	11.35	11.67	11.93	12.16
Medford NWP	4.44	4.44	4.53	4.68	4.82	4.97	5.10	5.24	5.36	5.46
Roseburg	4.09	4.14	4.31	4.54	4.75	4.98	5.19	5.41	5.59	5.77
OR Sub-Total	24.20	24.27	24.87	25.71	26.49	27.28	28.00	28.79	29.45	30.05
Wa/Id Both	42.36	42.43	42.91	43.84	44.84	45.88	46.61	47.52	48.45	49.43
Wa/Id GTN	5.85	5.86	5.93	6.06	6.20	6.35	6.45	6.58	6.71	6.85
Wa/Id NWP	24.87	24.95	25.27	25.85	26.48	27.12	27.59	28.16	28.74	29.35
Wa/Id Sub-Total	73.09	73.24	74.12	75.75	77.52	79.35	80.65	82.27	83.90	85.63
High Case Total	97.28	97.52	98.99	101.47	104.00	106.63	108.65	111.06	113.35	115.68

Low Growth & High Prices

Area	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
Klam Falls	3.66	3.69	3.59	3.49	3.47	3.49	3.49	3.51	3.53	3.54
La Grande	2.12	2.09	2.00	1.92	1.89	1.87	1.85	1.84	1.82	1.80
Medford GTN	9.87	9.84	9.49	9.22	9.22	9.26	9.27	9.33	9.35	9.35
Medford NWP	4.43	4.42	4.27	4.14	4.14	4.16	4.17	4.19	4.20	4.20
Roseburg	4.06	4.06	3.97	3.89	3.92	3.97	4.01	4.06	4.09	4.12
OR Sub-Total	24.14	24.09	23.32	22.65	22.64	22.75	22.80	22.93	22.98	23.01
Wa/Id Both	41.68	41.43	39.56	37.91	37.62	37.54	37.24	37.09	36.94	36.84
Wa/Id GTN	5.75	5.72	5.47	5.24	5.21	5.20	5.16	5.14	5.12	5.11
Wa/Id NWP	24.47	24.36	23.31	22.38	22.24	22.24	22.09	22.04	21.99	21.97
Wa/Id Sub-Total	71.90	71.51	68.33	65.52	65.07	64.98	64.49	64.27	64.06	63.92
Low Case Total	96.04	95.61	91.65	88.17	87.71	87.73	87.29	87.20	87.04	86.93

Appendix 3.10 - A
Annual Avg. Demand (Mdth/d)
(Net of DSM Savings)

Updated Expected with Low Elasticity

Area	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029
Klam Falls	4.18	4.25	4.32	4.38	4.44	4.52	4.59	4.66	4.71	4.79
La Grande	2.01	2.03	2.04	2.05	2.06	2.08	2.09	2.11	2.12	2.14
Medford GTN	11.10	11.30	11.47	11.66	11.83	12.04	12.22	12.41	12.57	12.75
Medford NWP	4.99	5.08	5.15	5.24	5.32	5.41	5.49	5.57	5.65	5.73
Roseburg	5.10	5.24	5.36	5.49	5.62	5.74	5.86	5.95	6.05	6.17
OR Sub-Total	27.38	27.90	28.33	28.83	29.27	29.79	30.25	30.70	31.10	31.58
Wa/Id Both	43.69	44.36	44.94	45.54	46.08	46.78	47.46	48.07	48.69	49.50
Wa/Id GTN	6.06	6.16	6.24	6.33	6.40	6.50	6.60	6.69	6.77	6.89
Wa/Id NWP	26.02	26.45	26.82	27.20	27.55	27.99	28.43	28.81	29.20	29.70
WA/ID Sub_Total	75.78	76.96	78.00	79.07	80.04	81.27	82.49	83.57	84.66	86.08
Expected Case Total	103.16	104.86	106.33	107.90	109.30	111.06	112.73	114.27	115.76	117.66

High Growth & Low Price

Area	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029
Klam Falls	4.63	4.74	4.85	4.95	5.05	5.17	5.28	5.38	5.48	5.60
La Grande	2.12	2.15	2.17	2.20	2.22	2.25	2.27	2.30	2.32	2.35
Medford GTN	12.43	12.76	13.04	13.35	13.63	13.96	14.25	14.55	14.81	15.10
Medford NWP	5.59	5.73	5.86	6.00	6.13	6.27	6.40	6.54	6.66	6.79
Roseburg	5.95	6.16	6.36	6.57	6.77	6.97	7.16	7.31	7.47	7.66
OR Sub-Total	30.73	31.56	32.28	33.07	33.80	34.62	35.35	36.07	36.74	37.49
Wa/Id Both	50.42	51.68	52.84	54.04	55.15	56.45	57.74	58.94	60.12	61.52
Wa/Id GTN	6.99	7.17	7.33	7.50	7.65	7.84	8.02	8.18	8.35	8.54
Wa/Id NWP	29.96	30.74	31.45	32.18	32.87	33.67	34.45	35.18	35.90	36.75
Wa/Id Sub-Total	87.37	89.58	91.62	93.72	95.87	97.96	100.22	102.31	104.36	106.80
High Case Total	118.10	121.13	123.90	126.79	129.67	132.58	135.57	138.38	141.10	144.29

Low Growth & High Prices

Area	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029
Klam Falls	3.55	3.57	3.60	3.62	3.64	3.67	3.70	3.73	3.75	3.78
La Grande	1.79	1.79	1.80	1.80	1.80	1.80	1.81	1.81	1.81	1.81
Medford GTN	9.39	9.47	9.52	9.59	9.65	9.74	9.80	9.88	9.94	10.01
Medford NWP	4.22	4.26	4.28	4.31	4.34	4.38	4.40	4.44	4.47	4.50
Roseburg	4.16	4.21	4.26	4.32	4.37	4.42	4.47	4.50	4.54	4.59
OR Sub-Total	23.11	23.31	23.45	23.64	23.79	24.01	24.19	24.37	24.50	24.70
Wa/Id Both	36.73	36.82	36.84	36.87	36.86	36.97	37.07	37.12	37.20	37.42
Wa/Id GTN	5.10	5.12	5.12	5.13	5.13	5.15	5.17	5.17	5.19	5.22
Wa/Id NWP	21.94	22.03	22.07	22.12	22.15	22.24	22.33	22.39	22.46	22.62
Wa/Id Sub-Total	63.77	63.97	64.03	64.13	64.14	64.36	64.57	64.69	64.86	65.27
Low Case Total	86.88	87.27	87.48	87.77	87.93	88.37	88.76	89.05	89.36	89.96

Appendix 3.10 - B
Annual Avg. Demand by Class(Mdth/d)
(Net of DSM Savings)

Updated Expected with Low Elasticity

Area	2009-2010: Residential	2009-2010: Commercial	2009-2010: Ind FirmSale	2010-2011: Residential	2010-2011: Commercial	2010-2011: Ind FirmSale	2011-2012: Residential	2011-2012: Commercial	2011-2012: Ind FirmSale
Klam Falls	2.30	1.39	0.02	2.28	1.42	0.02	2.31	1.47	0.02
La Grande	1.29	0.77	0.09	1.26	0.75	0.08	1.25	0.75	0.08
Medford GTN	6.09	3.82	0.02	6.03	3.80	0.02	6.11	3.80	0.02
Medford NWP	2.74	1.72	0.01	2.71	1.71	0.01	2.74	1.71	0.01
Roseburg	2.20	1.83	0.05	2.17	1.85	0.05	2.24	1.89	0.05
OR Sub-Total	14.62	9.53	0.18	14.45	9.54	0.17	14.66	9.61	0.17
Wa/Id Both	25.13	15.90	0.61	24.60	16.01	0.62	24.38	16.21	0.62
Wa/Id GTN	3.47	2.19	0.08	3.40	2.21	0.09	3.37	2.24	0.09
Wa/Id NWP	14.77	9.32	0.36	14.50	9.39	0.36	14.41	9.50	0.36
Wa/Id Sub-Total	43.37	27.42	1.05	42.50	27.61	1.06	42.17	27.94	1.07
Expected Case Total	68.49	43.33	1.66	67.10	43.62	1.68	66.55	44.15	1.70

High Growth & Low Price

Area	2009-2010: Residential	2009-2010: Commercial	2009-2010: Ind FirmSale	2010-2011: Residential	2010-2011: Commercial	2010-2011: Ind FirmSale	2011-2012: Residential	2011-2012: Commercial	2011-2012: Ind FirmSale
Klam Falls	2.27	1.39	0.02	2.27	1.45	0.02	2.32	1.52	0.02
La Grande	1.27	0.76	0.09	1.24	0.75	0.08	1.25	0.75	0.08
Medford GTN	6.05	3.82	0.02	6.04	3.84	0.02	6.21	3.87	0.02
Medford NWP	2.72	1.72	0.01	2.71	1.72	0.01	2.79	1.74	0.01
Roseburg	2.19	1.86	0.05	2.18	1.91	0.05	2.30	1.97	0.05
OR Sub-Total	14.48	9.54	0.18	14.44	9.66	0.17	14.86	9.84	0.17
Wa/Id Both	25.45	16.29	0.63	25.18	16.61	0.64	25.26	17.01	0.65
Wa/Id GTN	3.51	2.25	0.09	3.48	2.29	0.09	3.49	2.35	0.09
Wa/Id NWP	14.96	9.55	0.37	14.84	9.74	0.37	14.92	9.98	0.38
Wa/Id Sub-Total	43.93	28.08	1.08	43.49	28.64	1.10	43.67	29.34	1.12
High Case Total	69.38	44.36	1.71	68.67	45.26	1.74	68.92	46.35	1.76

Low Growth & High Price

Area	2009-2010: Residential	2009-2010: Commercial	2009-2010: Ind FirmSale	2010-2011: Residential	2010-2011: Commercial	2010-2011: Ind FirmSale	2011-2012: Residential	2011-2012: Commercial	2011-2012: Ind FirmSale
Klam Falls	2.27	1.37	0.02	2.27	1.39	0.02	2.20	1.37	0.02
La Grande	1.28	0.76	0.09	1.26	0.75	0.09	1.21	0.71	0.08
Medford GTN	6.05	3.80	0.02	6.03	3.79	0.02	5.82	3.66	0.02
Medford NWP	2.72	1.71	0.01	2.71	1.70	0.01	2.61	1.65	0.01
Roseburg	2.19	1.83	0.05	2.18	1.84	0.05	2.12	1.80	0.05
OR Sub-Total	14.50	9.46	0.18	14.44	9.48	0.17	13.96	9.19	0.17
Wa/Id Both	25.16	15.90	0.61	24.79	16.02	0.62	23.42	15.52	0.62
Wa/Id GTN	3.47	2.19	0.08	3.43	2.21	0.09	3.24	2.14	0.09
Wa/Id NWP	14.79	9.32	0.36	14.61	9.40	0.36	13.84	9.10	0.36
Wa/Id Sub-Total	43.42	27.42	1.06	42.82	27.63	1.06	40.50	26.77	1.06
Low Case Total	68.58	43.32	1.67	67.60	43.66	1.68	63.92	42.29	1.68

Appendix 3.10 - B
Annual Avg. Demand by Class(Mdth/d)
(Net of DSM Savings)

Updated Expected with Low Elasticity

Area	2012-2013: Residential	2012-2013: Commercial	2012-2013: Ind FirmSale	2013-2014: Residential	2013-2014: Commercial	2013-2014: Ind FirmSale	2014-2015: Residential	2014-2015: Commercial	2014-2015: Ind FirmSale
Klam Falls	2.36	1.50	0.02	2.39	1.51	0.02	2.42	1.53	0.02
La Grande	1.26	0.75	0.08	1.26	0.74	0.08	1.26	0.73	0.08
Medford GTN	6.27	3.83	0.02	6.43	3.85	0.02	6.60	3.87	0.02
Medford NWP	2.82	1.72	0.01	2.89	1.73	0.01	2.97	1.74	0.01
Roseburg	2.34	1.92	0.05	2.44	1.95	0.05	2.54	1.99	0.05
OR Sub-Total	15.04	9.72	0.17	15.41	9.79	0.17	15.79	9.88	0.17
Wa/Id Both	24.44	16.53	0.63	24.54	16.86	0.63	24.67	17.21	0.64
Wa/Id GTN	3.38	2.28	0.09	3.40	2.33	0.09	3.42	2.38	0.09
Wa/Id NWP	14.48	9.69	0.37	14.57	9.89	0.37	14.68	10.10	0.38
Wa/Id Sub-Total	42.30	28.50	1.08	42.51	29.08	1.09	42.77	29.69	1.11
Expected Case Total	65.73	45.03	1.71	67.05	45.95	1.73	67.44	46.90	1.75

High Growth & Low Price

Area	2012-2013: Residential	2012-2013: Commercial	2012-2013: Ind FirmSale	2013-2014: Residential	2013-2014: Commercial	2013-2014: Ind FirmSale	2014-2015: Residential	2014-2015: Commercial	2014-2015: Ind FirmSale
Klam Falls	2.40	1.58	0.02	2.45	1.61	0.02	2.52	1.64	0.02
La Grande	1.26	0.75	0.08	1.28	0.74	0.08	1.28	0.74	0.08
Medford GTN	6.47	3.92	0.02	6.75	3.97	0.02	7.03	4.01	0.02
Medford NWP	2.91	1.76	0.01	3.03	1.78	0.01	3.16	1.80	0.01
Roseburg	2.46	2.03	0.05	2.62	2.09	0.05	2.78	2.16	0.05
OR Sub-Total	15.50	10.04	0.17	16.13	10.19	0.17	16.77	10.35	0.17
Wa/Id Both	25.64	17.55	0.65	26.08	18.09	0.66	26.55	18.66	0.68
Wa/Id GTN	3.55	2.42	0.09	3.61	2.50	0.09	3.68	2.57	0.09
Wa/Id NWP	15.18	10.29	0.38	15.47	10.61	0.39	15.78	10.94	0.40
Wa/Id Sub-Total	44.37	30.26	1.13	45.17	31.20	1.15	46.01	32.17	1.17
High Case Total	70.01	47.80	1.78	71.25	49.30	1.81	72.55	50.83	1.84

Low Growth & High Price

Area	2012-2013: Residential	2012-2013: Commercial	2012-2013: Ind FirmSale	2013-2014: Residential	2013-2014: Commercial	2013-2014: Ind FirmSale	2014-2015: Residential	2014-2015: Commercial	2014-2015: Ind FirmSale
Klam Falls	2.13	1.34	0.02	2.12	1.33	0.02	2.13	1.34	0.02
La Grande	1.16	0.68	0.08	1.14	0.67	0.08	1.13	0.66	0.08
Medford GTN	5.65	3.55	0.02	5.67	3.53	0.02	5.72	3.52	0.02
Medford NWP	2.54	1.59	0.01	2.55	1.59	0.01	2.57	1.58	0.01
Roseburg	2.09	1.76	0.04	2.12	1.76	0.04	2.16	1.77	0.04
OR Sub-Total	13.57	8.92	0.16	13.60	8.88	0.16	13.71	8.87	0.16
Wa/Id Both	22.20	15.09	0.62	21.84	15.15	0.62	21.63	15.29	0.62
Wa/Id GTN	3.07	2.08	0.09	3.03	2.09	0.09	3.00	2.11	0.09
Wa/Id NWP	13.16	8.85	0.36	12.99	8.89	0.36	12.90	8.97	0.37
Wa/Id Sub-Total	38.44	26.02	1.06	37.86	26.13	1.07	37.53	26.38	1.07
Low Case Total	60.63	41.12	1.68	59.71	41.29	1.69	59.16	41.67	1.70

Appendix 3.10 - B
Annual Avg. Demand by Class(Mdth/d)
(Net of DSM Savings)

Updated Expected with Low Elasticity

Area	2015-2016: Residential	2015-2016: Commercial	2015-2016: Ind FirmSale	2016-2017: Residential	2016-2017: Commercial	2016-2017: Ind FirmSale	2017-2018: Residential	2017-2018: Commercial	2017-2018: Ind FirmSale
Klam Falls	2.42	1.53	0.02	2.46	1.55	0.02	2.50	1.57	0.02
La Grande	1.24	0.71	0.08	1.25	0.71	0.08	1.25	0.70	0.08
Medford GTN	6.65	3.83	0.02	6.82	3.85	0.02	6.96	3.86	0.02
Medford NWP	2.99	1.72	0.01	3.07	1.73	0.01	3.13	1.73	0.01
Roseburg	2.60	2.00	0.04	2.70	2.04	0.04	2.79	2.05	0.04
OR Sub-Total	15.91	9.79	0.16	16.30	9.87	0.16	16.61	9.91	0.16
Wa/Id Both	24.22	17.22	0.65	24.29	17.52	0.65	24.35	17.83	0.66
Wa/Id GTN	3.36	2.38	0.09	3.38	2.42	0.09	3.39	2.46	0.09
Wa/Id NWP	14.46	10.10	0.38	14.53	10.28	0.38	14.60	10.46	0.39
Wa/Id Sub-Total	42.04	29.69	1.11	42.19	30.22	1.12	42.34	30.75	1.13
Expected Case Total	66.27	46.91	1.76	66.48	47.74	1.78	66.70	48.57	1.79

High Growth & Low Price

Area	2015-2016: Residential	2015-2016: Commercial	2015-2016: Ind FirmSale	2016-2017: Residential	2016-2017: Commercial	2016-2017: Ind FirmSale	2017-2018: Residential	2017-2018: Commercial	2017-2018: Ind FirmSale
Klam Falls	2.58	1.67	0.02	2.65	1.70	0.02	2.71	1.73	0.02
La Grande	1.29	0.73	0.08	1.31	0.73	0.08	1.31	0.72	0.08
Medford GTN	7.29	4.04	0.02	7.57	4.08	0.02	7.80	4.11	0.02
Medford NWP	3.27	1.82	0.01	3.40	1.83	0.01	3.50	1.85	0.01
Roseburg	2.93	2.21	0.04	3.09	2.27	0.04	3.24	2.31	0.04
OR Sub-Total	17.36	10.47	0.17	18.01	10.62	0.17	18.56	10.72	0.17
Wa/Id Both	26.83	19.09	0.69	27.23	19.60	0.69	27.63	20.12	0.70
Wa/Id GTN	3.72	2.63	0.09	3.78	2.70	0.10	3.84	2.78	0.10
Wa/Id NWP	15.98	11.20	0.40	16.25	11.50	0.41	16.52	11.81	0.41
Wa/Id Sub-Total	46.54	32.93	1.18	47.26	33.81	1.20	47.98	34.70	1.21
High Case Total	73.37	52.02	1.87	74.49	53.41	1.89	75.61	54.82	1.92

Low Growth & High Price

Area	2015-2016: Residential	2015-2016: Commercial	2015-2016: Ind FirmSale	2016-2017: Residential	2016-2017: Commercial	2016-2017: Ind FirmSale	2017-2018: Residential	2017-2018: Commercial	2017-2018: Ind FirmSale
Klam Falls	2.14	1.34	0.02	2.15	1.35	0.02	2.16	1.35	0.02
La Grande	1.13	0.65	0.07	1.12	0.64	0.07	1.11	0.64	0.07
Medford GTN	5.75	3.50	0.02	5.81	3.50	0.02	5.84	3.49	0.02
Medford NWP	2.59	1.57	0.01	2.61	1.57	0.01	2.63	1.57	0.01
Roseburg	2.19	1.78	0.04	2.23	1.79	0.04	2.26	1.79	0.04
OR Sub-Total	13.79	8.85	0.16	13.92	8.85	0.16	14.00	8.83	0.16
Wa/Id Both	21.27	15.34	0.63	21.02	15.44	0.63	20.76	15.55	0.63
Wa/Id GTN	2.96	2.12	0.09	2.92	2.13	0.09	2.89	2.15	0.09
Wa/Id NWP	12.73	9.00	0.37	12.61	9.06	0.37	12.49	9.13	0.37
Wa/Id Sub-Total	36.96	26.45	1.08	36.55	26.64	1.08	36.15	26.82	1.09
Low Case Total	58.23	41.79	1.71	57.56	42.08	1.71	56.91	42.37	1.72

Appendix 3.10 - B
Annual Avg. Demand by Class(Mdth/d)
(Net of DSM Savings)

Updated Expected with Low Elasticity	Area	2018-2019: Residential	2018-2019: Commercial	2018-2019: Ind FirmSale	2019-2020: Residential	2019-2020: Commercial	2019-2020: Ind FirmSale	2020-2021: Residential	2020-2021: Commercial	2020-2021: Ind FirmSale
	Klam Falls	2.53	1.58	0.02	2.56	1.60	0.02	2.61	1.62	0.02
	La Grande	1.25	0.69	0.07	1.25	0.69	0.07	1.27	0.69	0.07
	Medford GTN	7.07	3.86	0.02	7.21	3.88	0.02	7.38	3.91	0.02
	Medford NWP	3.18	1.73	0.01	3.24	1.74	0.01	3.31	1.76	0.01
	Roseburg	2.88	2.07	0.04	2.97	2.09	0.04	3.07	2.12	0.04
	OR Sub-Total	16.90	9.94	0.16	17.23	10.00	0.16	17.64	10.10	0.16
	Wa/Id Both	24.45	18.15	0.67	24.55	18.48	0.67	24.81	18.88	0.68
	Wa/Id GTN	3.40	2.50	0.09	3.42	2.55	0.09	3.46	2.61	0.09
	Wa/Id NWP	14.69	10.65	0.39	14.78	10.85	0.39	14.97	11.08	0.40
	Wa/Id Sub-Total	42.54	31.31	1.15	42.75	31.87	1.16	43.23	32.57	1.17
	Expected Case Total	66.99	49.46	1.82	67.30	50.35	1.83	68.04	51.44	1.84

High Growth & Low Price	Area	2018-2019: Residential	2018-2019: Commercial	2018-2019: Ind FirmSale	2019-2020: Residential	2019-2020: Commercial	2019-2020: Ind FirmSale	2020-2021: Residential	2020-2021: Commercial	2020-2021: Ind FirmSale
	Klam Falls	2.76	1.76	0.02	2.82	1.79	0.02	2.90	1.83	0.02
	La Grande	1.32	0.71	0.08	1.34	0.71	0.08	1.36	0.71	0.07
	Medford GTN	8.00	4.13	0.02	8.24	4.18	0.02	8.50	4.24	0.02
	Medford NWP	3.60	1.86	0.01	3.70	1.88	0.01	3.82	1.90	0.01
	Roseburg	3.38	2.35	0.04	3.53	2.38	0.04	3.69	2.43	0.04
	OR Sub-Total	19.07	10.81	0.17	19.62	10.94	0.17	20.27	11.11	0.17
	Wa/Id Both	28.05	20.66	0.72	28.49	21.20	0.72	29.12	21.83	0.73
	Wa/Id GTN	3.90	2.85	0.10	3.96	2.93	0.10	4.05	3.01	0.10
	Wa/Id NWP	16.81	12.12	0.42	17.10	12.44	0.42	17.49	12.81	0.43
	Wa/Id Sub-Total	48.76	35.63	1.24	49.56	36.56	1.25	50.66	37.66	1.27
	High Case Total	76.61	56.28	1.96	78.05	57.76	1.97	79.78	59.48	2.00

Low Growth & High Price	Area	2018-2019: Residential	2018-2019: Commercial	2018-2019: Ind FirmSale	2019-2020: Residential	2019-2020: Commercial	2019-2020: Ind FirmSale	2020-2021: Residential	2020-2021: Commercial	2020-2021: Ind FirmSale
	Klam Falls	2.17	1.35	0.02	2.17	1.36	0.02	2.19	1.37	0.02
	La Grande	1.10	0.63	0.07	1.10	0.62	0.07	1.10	0.62	0.07
	Medford GTN	5.86	3.47	0.02	5.91	3.47	0.02	5.98	3.48	0.02
	Medford NWP	2.63	1.56	0.01	2.65	1.56	0.01	2.69	1.56	0.01
	Roseburg	2.29	1.79	0.04	2.33	1.79	0.04	2.37	1.80	0.04
	OR Sub-Total	14.06	8.80	0.15	14.16	8.79	0.15	14.33	8.82	0.15
	Wa/Id Both	20.53	15.67	0.64	20.30	15.79	0.64	20.21	15.98	0.64
	Wa/Id GTN	2.86	2.16	0.09	2.83	2.18	0.09	2.82	2.21	0.09
	Wa/Id NWP	12.39	9.20	0.37	12.29	9.27	0.37	12.27	9.38	0.38
	Wa/Id Sub-Total	35.79	27.04	1.10	35.43	27.24	1.10	35.30	27.56	1.10
	Low Case Total	56.31	42.71	1.73	55.73	43.04	1.74	55.50	43.54	1.74

Appendix 3.10 - B
Annual Avg. Demand by Class(Mdth/d)
(Net of DSM Savings)

Updated Expected with Low Elasticity

Area	2021-2022: Residential	2021-2022: Commercial	2021-2022: Ind FirmSale	2022-2023: Residential	2022-2023: Commercial	2022-2023: Ind FirmSale	2023-2024: Residential	2023-2024: Commercial	2023-2024: Ind FirmSale
Klam Falls	2.65	1.64	0.02	2.70	1.67	0.02	2.73	1.69	0.02
La Grande	1.28	0.69	0.07	1.29	0.69	0.07	1.30	0.69	0.07
Medford GTN	7.52	3.93	0.02	7.68	3.97	0.02	7.82	3.99	0.02
Medford NWP	3.38	1.77	0.01	3.45	1.78	0.01	3.51	1.79	0.01
Roseburg	3.17	2.15	0.04	3.27	2.18	0.04	3.36	2.21	0.04
OR Sub-Total	18.00	10.17	0.16	18.39	10.28	0.16	18.74	10.37	0.16
Wa/Id Both	25.02	19.24	0.68	25.25	19.61	0.69	25.44	19.95	0.69
Wa/Id GTN	3.49	2.66	0.09	3.52	2.71	0.10	3.55	2.75	0.10
Wa/Id NWP	15.12	11.30	0.40	15.29	11.51	0.40	15.44	11.71	0.41
Wa/Id Sub-Total	43.63	33.19	1.18	44.06	33.83	1.19	44.43	34.41	1.19
Expected Case Total	68.64	52.43	1.86	69.30	53.43	1.88	69.88	54.35	1.89

High Growth & Low Price

Area	2021-2022: Residential	2021-2022: Commercial	2021-2022: Ind FirmSale	2022-2023: Residential	2022-2023: Commercial	2022-2023: Ind FirmSale	2023-2024: Residential	2023-2024: Commercial	2023-2024: Ind FirmSale
Klam Falls	2.96	1.86	0.02	3.03	1.90	0.02	3.10	1.94	0.02
La Grande	1.39	0.71	0.07	1.41	0.72	0.07	1.43	0.72	0.07
Medford GTN	8.74	4.28	0.02	8.99	4.34	0.02	9.23	4.38	0.02
Medford NWP	3.93	1.92	0.01	4.04	1.95	0.01	4.15	1.97	0.01
Roseburg	3.84	2.47	0.04	4.01	2.52	0.04	4.15	2.58	0.04
OR Sub-Total	20.86	11.25	0.17	21.48	11.42	0.17	22.05	11.58	0.17
Wa/Id Both	29.69	22.41	0.74	30.28	23.00	0.75	30.84	23.55	0.76
Wa/Id GTN	4.13	3.09	0.10	4.22	3.17	0.10	4.30	3.25	0.10
Wa/Id NWP	17.86	13.16	0.43	18.24	13.50	0.44	18.60	13.83	0.44
Wa/Id Sub-Total	51.68	38.66	1.28	52.74	39.68	1.30	53.73	40.63	1.31
High Case Total	81.37	61.07	2.02	83.02	62.68	2.05	84.57	64.19	2.06

Low Growth & High Price

Area	2021-2022: Residential	2021-2022: Commercial	2021-2022: Ind FirmSale	2022-2023: Residential	2022-2023: Commercial	2022-2023: Ind FirmSale	2023-2024: Residential	2023-2024: Commercial	2023-2024: Ind FirmSale
Klam Falls	2.21	1.37	0.02	2.22	1.38	0.02	2.23	1.39	0.02
La Grande	1.11	0.62	0.07	1.11	0.62	0.07	1.11	0.61	0.07
Medford GTN	6.03	3.48	0.02	6.09	3.49	0.02	6.14	3.49	0.02
Medford NWP	2.71	1.56	0.01	2.74	1.57	0.01	2.76	1.57	0.01
Roseburg	2.41	1.81	0.04	2.45	1.82	0.04	2.49	1.83	0.04
OR Sub-Total	14.46	8.83	0.15	14.62	8.87	0.15	14.74	8.90	0.15
Wa/Id Both	20.07	16.13	0.64	19.94	16.28	0.65	19.80	16.42	0.65
Wa/Id GTN	2.81	2.23	0.09	2.79	2.25	0.09	2.78	2.27	0.09
Wa/Id NWP	12.22	9.47	0.38	12.18	9.56	0.38	12.12	9.64	0.38
Wa/Id Sub-Total	35.10	27.83	1.11	34.92	28.10	1.11	34.70	28.33	1.12
Low Case Total	55.16	43.96	1.75	54.86	44.38	1.76	54.50	44.74	1.77

Appendix 3.10 - B
Annual Avg. Demand by Class(Mdth/d)
(Net of DSM Savings)

Updated Expected with Low Elasticity

Area	2024-2025: Residential	2024-2025: Commercial	2024-2025: Ind FirmSale	2025-2026: Residential	2025-2026: Commercial	2025-2026: Ind FirmSale	2026-2027: Residential	2026-2027: Commercial	2026-2027: Ind FirmSale
Klam Falls	2.78	1.72	0.02	2.82	1.75	0.02	2.87	1.77	0.02
La Grande	1.32	0.69	0.07	1.33	0.69	0.07	1.34	0.69	0.07
Medford GTN	7.99	4.03	0.02	8.14	4.06	0.02	8.29	4.10	0.02
Medford NWP	3.59	1.81	0.01	3.66	1.83	0.01	3.72	1.84	0.01
Roseburg	3.46	2.24	0.04	3.54	2.28	0.04	3.61	2.30	0.04
OR Sub-Total	19.14	10.50	0.16	19.49	10.60	0.16	19.83	10.71	0.16
Wa/Id Both	25.73	20.35	0.70	26.00	20.76	0.70	26.23	21.13	0.71
Wa/Id GTN	3.60	2.81	0.10	3.64	2.87	0.10	3.67	2.92	0.10
Wa/Id NWP	15.63	11.95	0.41	15.82	12.19	0.41	15.99	12.41	0.42
Wa/Id Sub-Total	44.95	35.11	1.20	45.46	35.82	1.21	45.89	36.46	1.23
Expected Case Total	70.68	55.47	1.90	71.45	56.57	1.92	72.12	57.59	1.94

High Growth & Low Price

Area	2024-2025: Residential	2024-2025: Commercial	2024-2025: Ind FirmSale	2025-2026: Residential	2025-2026: Commercial	2025-2026: Ind FirmSale	2026-2027: Residential	2026-2027: Commercial	2026-2027: Ind FirmSale
Klam Falls	3.17	1.98	0.02	3.24	2.02	0.02	3.31	2.06	0.02
La Grande	1.45	0.72	0.07	1.47	0.73	0.07	1.50	0.73	0.07
Medford GTN	9.49	4.44	0.02	9.73	4.50	0.02	9.97	4.56	0.02
Medford NWP	4.27	2.00	0.01	4.37	2.02	0.01	4.48	2.05	0.01
Roseburg	4.29	2.63	0.04	4.43	2.68	0.04	4.54	2.72	0.04
OR Sub-Total	22.68	11.77	0.17	23.24	11.95	0.17	23.79	12.12	0.17
Wa/Id Both	31.49	24.20	0.77	32.14	24.83	0.77	32.72	25.43	0.79
Wa/Id GTN	4.39	3.34	0.11	4.48	3.43	0.11	4.57	3.51	0.11
Wa/Id NWP	19.01	14.20	0.45	19.42	14.58	0.45	19.79	14.93	0.46
Wa/Id Sub-Total	54.90	41.74	1.32	56.04	42.84	1.34	57.08	43.87	1.35
High Case Total	86.39	65.93	2.09	88.17	67.67	2.11	89.80	69.30	2.14

Low Growth & High Price

Area	2024-2025: Residential	2024-2025: Commercial	2024-2025: Ind FirmSale	2025-2026: Residential	2025-2026: Commercial	2025-2026: Ind FirmSale	2026-2027: Residential	2026-2027: Commercial	2026-2027: Ind FirmSale
Klam Falls	2.25	1.41	0.02	2.27	1.42	0.02	2.28	1.43	0.02
La Grande	1.12	0.62	0.07	1.12	0.62	0.07	1.12	0.62	0.07
Medford GTN	6.21	3.51	0.02	6.27	3.52	0.02	6.33	3.54	0.02
Medford NWP	2.79	1.58	0.01	2.82	1.58	0.01	2.84	1.59	0.01
Roseburg	2.53	1.85	0.04	2.57	1.86	0.04	2.59	1.87	0.04
OR Sub-Total	14.91	8.95	0.15	15.04	9.00	0.15	15.17	9.04	0.15
Wa/Id Both	19.72	16.60	0.65	19.63	16.79	0.65	19.52	16.94	0.66
Wa/Id GTN	2.77	2.29	0.09	2.76	2.32	0.09	2.74	2.34	0.09
Wa/Id NWP	12.11	9.75	0.38	12.09	9.86	0.38	12.05	9.96	0.39
Wa/Id Sub-Total	34.59	28.65	1.12	34.47	28.97	1.13	34.31	29.24	1.13
Low Case Total	54.31	45.25	1.77	54.10	45.75	1.78	53.83	46.19	1.79

Appendix 3.10 - B
Annual Avg. Demand by Class(Mdth/d)
(Net of DSM Savings)

Updated Expected with Low Elasticity

Area	2027-2028: Residential	2027-2028: Commercial	2027-2028: Ind FirmSale	2028-2029: Residential	2028-2029: Commercial	2028-2029: Ind FirmSale
Klam Falls	2.90	1.79	0.02	2.95	1.82	0.02
La Grande	1.35	0.69	0.07	1.37	0.70	0.07
Medford GTN	8.42	4.13	0.02	8.57	4.17	0.02
Medford NWP	3.78	1.86	0.01	3.85	1.87	0.01
Roseburg	3.68	2.33	0.04	3.77	2.36	0.04
OR Sub-Total	20.14	10.80	0.16	20.50	10.92	0.16
Wa/Id Both	26.50	21.47	0.72	26.88	21.89	0.72
Wa/Id GTN	3.71	2.96	0.10	3.77	3.02	0.10
Wa/Id NWP	16.17	12.61	0.42	16.42	12.86	0.42
Wa/Id Sub-Total	46.38	37.05	1.23	47.06	37.77	1.25
Expected Case Total	72.88	58.52	1.95	73.95	59.66	1.97

High Growth & Low Price

Area	2027-2028: Residential	2027-2028: Commercial	2027-2028: Ind FirmSale	2028-2029: Residential	2028-2029: Commercial	2028-2029: Ind FirmSale
Klam Falls	3.37	2.09	0.02	3.44	2.14	0.02
La Grande	1.52	0.73	0.07	1.54	0.74	0.07
Medford GTN	10.18	4.61	0.02	10.42	4.66	0.03
Medford NWP	4.57	2.07	0.01	4.68	2.09	0.01
Roseburg	4.66	2.77	0.04	4.79	2.83	0.04
OR Sub-Total	24.30	12.27	0.17	24.86	12.46	0.17
Wa/Id Both	33.33	25.99	0.79	34.08	26.64	0.80
Wa/Id GTN	4.65	3.59	0.11	4.76	3.68	0.11
Wa/Id NWP	20.17	15.26	0.47	20.63	15.64	0.47
Wa/Id Sub-Total	58.16	44.84	1.37	59.47	45.96	1.39
High Case Total	91.49	70.83	2.16	93.55	72.59	2.19

Low Growth & High Price

Area	2027-2028: Residential	2027-2028: Commercial	2027-2028: Ind FirmSale	2028-2029: Residential	2028-2029: Commercial	2028-2029: Ind FirmSale
Klam Falls	2.29	1.44	0.02	2.31	1.45	0.02
La Grande	1.13	0.62	0.07	1.13	0.62	0.07
Medford GTN	6.38	3.55	0.02	6.43	3.56	0.02
Medford NWP	2.86	1.59	0.01	2.89	1.60	0.01
Roseburg	2.62	1.88	0.04	2.66	1.89	0.04
OR Sub-Total	15.28	9.07	0.15	15.42	9.13	0.15
Wa/Id Both	19.46	17.08	0.66	19.49	17.28	0.66
Wa/Id GTN	2.74	2.36	0.09	2.74	2.38	0.09
Wa/Id NWP	12.04	10.04	0.39	12.08	10.15	0.39
Wa/Id Sub-Total	34.24	29.47	1.14	34.31	29.81	1.14
Low Case Total	53.70	46.55	1.80	53.79	47.09	1.81

Appendix 3.10 - C
Annual Demand by Class(Mdth/d)
(Net of DSM Savings)

Updated Expected with Low Elasticity	Area	2009-2010: Residential	2009-2010: Commercial	2009-2010: Ind FirmSale	2010-2011: Residential	2010-2011: Commercial	2010-2011: Ind FirmSale	2011-2012: Residential	2011-2012: Commercial	2011-2012: Ind FirmSale
	Klam Falls	839.01	507.40	6.42	833.19	518.41	6.42	846.13	536.23	6.44
	La Grande	470.53	280.08	31.88	459.27	274.27	30.71	459.26	273.48	30.42
	Medford GTN	2,223.95	1,395.83	6.03	2,201.04	1,388.19	5.99	2,235.29	1,392.31	5.97
	Medford NWP	999.17	627.10	2.71	988.89	623.67	2.69	1,004.28	625.51	2.68
	Roseburg	802.00	668.28	17.04	793.21	676.22	16.88	819.62	690.37	16.75
	OR Sub-Total	5,334.65	3,478.70	64.09	5,275.60	3,480.75	62.69	5,364.58	3,517.89	62.27
	Wa/Id Both	9,171.63	5,805.07	222.44	8,979.46	5,843.56	225.40	8,924.85	5,931.05	227.82
	Wa/Id GTN	1,266.27	800.74	30.68	1,240.97	806.10	31.09	1,234.61	818.21	31.42
	Wa/Id NWP	5,390.48	3,403.48	130.39	5,291.73	3,426.56	132.13	5,273.14	3,478.35	133.55
	Wa/Id Sub-Total	15,828.39	10,009.29	383.51	15,512.15	10,076.22	388.63	15,432.60	10,227.61	392.79
	Expected Case Total	21,163.04	13,487.99	447.60	20,787.75	13,556.97	451.32	20,797.17	13,745.51	455.06

High Growth & Low Price	Area	2009-2010: Residential	2009-2010: Commercial	2009-2010: Ind FirmSale	2010-2011: Residential	2010-2011: Commercial	2010-2011: Ind FirmSale	2011-2012: Residential	2011-2012: Commercial	2011-2012: Ind FirmSale
	Klam Falls	826.93	507.37	6.42	827.65	528.49	6.42	849.40	556.33	6.44
	La Grande	462.65	276.18	31.88	453.87	272.22	30.76	457.06	272.96	30.48
	Medford GTN	2,206.63	1,394.54	5.99	2,203.68	1,399.99	5.96	2,271.43	1,415.34	6.13
	Medford NWP	991.39	626.53	2.69	990.07	628.97	2.68	1,020.52	635.86	2.75
	Roseburg	798.22	677.19	17.04	795.83	696.62	16.89	840.60	721.71	16.77
	OR Sub-Total	5,285.81	3,481.81	64.03	5,271.10	3,526.29	62.71	5,439.01	3,602.20	62.56
	Wa/Id Both	9,290.47	5,944.14	228.59	9,190.29	6,063.46	233.32	9,243.69	6,226.27	236.82
	Wa/Id GTN	1,282.66	819.93	31.53	1,270.05	836.43	32.18	1,278.58	858.93	32.66
	Wa/Id NWP	5,460.14	3,485.00	134.00	5,415.32	3,555.47	136.77	5,460.04	3,651.41	138.82
	Wa/Id Sub-Total	16,033.27	10,249.07	394.12	15,875.65	10,455.35	402.27	15,982.32	10,736.62	408.31
	High Case Total	21,319.08	13,730.89	458.15	21,146.75	13,981.64	464.98	21,421.32	14,338.82	470.87

Low Growth & High Price	Area	2009-2010: Residential	2009-2010: Commercial	2009-2010: Ind FirmSale	2010-2011: Residential	2010-2011: Commercial	2010-2011: Ind FirmSale	2011-2012: Residential	2011-2012: Commercial	2011-2012: Ind FirmSale
	Klam Falls	829.60	501.10	6.42	830.30	508.43	6.42	806.04	501.96	6.44
	La Grande	466.13	275.81	31.88	459.54	272.34	31.11	441.59	261.40	29.84
	Medford GTN	2,207.98	1,387.56	6.03	2,199.80	1,384.81	6.03	2,128.52	1,340.38	5.92
	Medford NWP	992.00	623.39	2.71	988.33	622.15	2.71	956.31	602.18	2.66
	Roseburg	797.68	666.82	17.04	794.01	671.43	17.01	777.54	657.87	16.57
	OR Sub-Total	5,293.39	3,454.68	64.09	5,271.97	3,459.16	63.98	5,110.00	3,363.76	61.43
	Wa/Id Both	9,183.80	5,804.42	223.77	9,046.88	5,848.87	225.38	8,571.30	5,681.25	225.83
	Wa/Id GTN	1,267.95	800.66	30.86	1,250.27	806.83	31.09	1,185.84	783.76	31.15
	Wa/Id NWP	5,397.62	3,403.11	131.18	5,331.25	3,429.67	132.12	5,065.88	3,331.91	132.38
	Wa/Id Sub-Total	15,849.36	10,008.18	385.81	15,628.40	10,085.38	388.59	14,823.03	9,796.92	389.36
	Low Case Total	21,142.76	13,462.86	449.90	20,900.36	13,544.53	451.57	19,933.03	13,160.70	450.80

Appendix 3.10 - C
Annual Demand by Class(Mdth/d)
(Net of DSM Savings)

Updated Expected with Low Elasticity	2012-2013: Residential	2012-2013: Commercial	2012-2013: Ind FirmSale	2013-2014: Residential	2013-2014: Commercial	2013-2014: Ind FirmSale	2014-2015: Residential	2014-2015: Commercial	2014-2015: Ind FirmSale
Klam Falls	860.15	546.97	6.42	870.95	552.55	6.42	885.02	559.43	6.42
La Grande	459.60	271.96	29.88	460.32	269.63	29.70	460.20	266.45	29.13
Medford GTN	2,288.32	1,397.75	5.92	2,348.33	1,405.50	5.91	2,409.42	1,412.18	5.89
Medford NWP	1,028.11	627.95	2.66	1,055.08	631.42	2.65	1,082.53	634.42	2.65
Roseburg	854.84	701.39	16.60	891.07	712.84	16.52	927.64	727.25	16.43
OR Sub-Total	5,491.02	3,546.04	61.48	5,625.75	3,571.95	61.19	5,764.82	3,599.72	60.52
Wa/Id Both	8,919.73	6,032.46	228.89	8,957.04	6,155.38	231.33	9,003.54	6,283.42	233.96
Wa/Id GTN	1,235.05	832.24	31.57	1,241.35	849.24	31.91	1,248.92	866.95	32.27
Wa/Id NWP	5,283.41	3,538.29	134.17	5,318.55	3,610.84	135.60	5,359.09	3,686.39	137.15
Wa/Id Sub-Total	15,438.19	10,402.99	394.63	15,516.94	10,615.47	398.84	15,611.55	10,836.76	403.38
Expected Case Total	20,929.22	13,949.03	456.11	21,142.70	14,187.41	460.03	21,376.37	14,436.48	463.89

High Growth & Low Price	2012-2013: Residential	2012-2013: Commercial	2012-2013: Ind FirmSale	2013-2014: Residential	2013-2014: Commercial	2013-2014: Ind FirmSale	2014-2015: Residential	2014-2015: Commercial	2014-2015: Ind FirmSale
Klam Falls	875.05	575.13	6.42	896.03	586.20	6.42	919.41	597.94	6.42
La Grande	461.12	272.81	29.93	465.48	271.38	29.75	468.89	268.91	29.19
Medford GTN	2,363.03	1,430.93	6.47	2,462.72	1,448.30	6.46	2,565.08	1,464.44	6.75
Medford NWP	1,061.68	642.86	2.91	1,106.47	650.66	2.90	1,152.47	657.90	3.03
Roseburg	898.13	742.15	16.62	956.31	762.49	16.53	1,014.58	787.00	16.44
OR Sub-Total	5,659.01	3,663.88	62.35	5,887.00	3,719.03	62.06	6,120.43	3,776.20	61.83
Wa/Id Both	9,358.48	6,404.22	238.76	9,518.90	6,604.19	242.70	9,688.99	6,809.27	246.83
Wa/Id GTN	1,295.57	883.52	32.93	1,318.85	911.14	33.48	1,343.47	939.48	34.05
Wa/Id NWP	5,540.61	3,756.22	139.96	5,647.92	3,873.93	142.27	5,760.90	3,994.65	144.69
Wa/Id Sub-Total	16,194.66	11,043.96	411.66	16,485.68	11,389.26	418.45	16,793.36	11,743.40	425.57
High Case Total	21,853.67	14,707.84	474.01	22,372.68	15,108.29	480.52	22,913.79	15,519.60	487.39

Low Growth & High Price	2012-2013: Residential	2012-2013: Commercial	2012-2013: Ind FirmSale	2013-2014: Residential	2013-2014: Commercial	2013-2014: Ind FirmSale	2014-2015: Residential	2014-2015: Commercial	2014-2015: Ind FirmSale
Klam Falls	777.02	488.89	6.42	773.37	486.97	6.42	777.28	488.73	6.42
La Grande	422.34	249.14	28.27	417.57	244.97	28.10	414.16	241.44	27.58
Medford GTN	2,063.11	1,295.27	5.78	2,071.13	1,288.19	5.74	2,089.07	1,285.56	5.72
Medford NWP	926.93	581.91	2.60	930.54	578.72	2.58	938.60	577.53	2.57
Roseburg	762.84	641.02	16.10	772.90	641.40	16.01	786.74	645.80	15.92
OR Sub-Total	4,952.24	3,256.22	59.16	4,965.51	3,240.25	58.84	5,005.86	3,239.06	58.22
Wa/Id Both	8,102.51	5,508.10	225.02	7,973.03	5,530.72	226.29	7,894.21	5,582.25	227.33
Wa/Id GTN	1,122.33	759.92	31.04	1,105.63	763.08	31.21	1,095.91	770.23	31.36
Wa/Id NWP	4,804.35	3,230.90	131.91	4,741.72	3,244.66	132.65	4,708.80	3,275.36	133.27
Wa/Id Sub-Total	14,029.19	9,498.91	387.97	13,820.38	9,538.46	390.16	13,696.92	9,627.84	391.96
Low Case Total	18,981.43	12,755.14	447.13	18,785.89	12,778.71	449.00	18,704.78	12,866.91	450.17

Appendix 3.10 - C
Annual Demand by Class(Mdth/d)
(Net of DSM Savings)

Updated Expected with Low Elasticity	Area	2015-2016: Residential	2015-2016: Commercial	2015-2016: Ind FirmSale	2016-2017: Residential	2016-2017: Commercial	2016-2017: Ind FirmSale	2017-2018: Residential	2017-2018: Commercial	2017-2018: Ind FirmSale
	Klam Falls	886.14	560.09	6.44	898.98	566.17	6.42	912.13	572.59	6.42
	La Grande	455.10	260.47	28.38	454.97	257.44	28.16	454.75	254.42	27.65
	Medford GTN	2,435.10	1,401.42	5.85	2,490.16	1,404.47	5.81	2,538.96	1,407.26	5.78
	Medford NWP	1,094.07	629.58	2.63	1,118.82	630.95	2.61	1,140.75	632.19	2.60
	Roseburg	952.10	732.77	16.25	985.77	742.86	16.19	1,017.57	749.81	16.06
	OR Sub-Total	5,822.51	3,584.33	59.54	5,948.70	3,601.88	59.19	6,064.16	3,616.29	58.52
	Wa/Id Both	8,865.92	6,301.18	236.66	8,865.11	6,394.75	237.84	8,889.06	6,506.32	240.24
	Wa/Id GTN	1,231.04	869.44	32.64	1,232.01	882.38	32.81	1,236.40	897.81	33.14
	Wa/Id NWP	5,291.05	3,697.27	138.73	5,303.05	3,752.59	139.42	5,329.53	3,818.47	140.83
	Wa/Id Sub-Total	15,388.01	10,867.89	408.03	15,400.18	11,029.73	410.07	15,454.99	11,222.60	414.20
	Expected Case Total	21,210.52	14,452.22	467.57	21,348.88	14,631.60	469.26	21,519.14	14,838.89	472.72

High Growth & Low Price	Area	2015-2016: Residential	2015-2016: Commercial	2015-2016: Ind FirmSale	2016-2017: Residential	2016-2017: Commercial	2016-2017: Ind FirmSale	2017-2018: Residential	2017-2018: Commercial	2017-2018: Ind FirmSale
	Klam Falls	943.17	610.42	6.44	965.45	621.34	6.42	987.99	632.72	6.42
	La Grande	473.71	267.24	28.83	476.95	264.86	28.60	479.97	262.39	28.08
	Medford GTN	2,666.98	1,479.20	7.02	2,761.83	1,490.53	6.97	2,847.35	1,501.27	7.27
	Medford NWP	1,198.25	664.52	3.15	1,240.87	669.61	3.13	1,279.30	674.43	3.27
	Roseburg	1,073.36	809.83	16.39	1,128.43	828.52	16.33	1,180.96	842.51	16.20
	OR Sub-Total	6,355.47	3,831.21	61.82	6,573.52	3,874.85	61.46	6,775.57	3,913.32	61.25
	Wa/Id Both	9,819.49	6,987.82	251.22	9,937.76	7,155.26	253.41	10,083.21	7,343.40	257.09
	Wa/Id GTN	1,362.57	964.15	34.65	1,379.96	987.28	34.95	1,401.11	1,013.27	35.46
	Wa/Id NWP	5,850.04	4,099.79	147.26	5,931.85	4,198.41	148.55	6,029.55	4,309.17	150.71
	Wa/Id Sub-Total	17,032.10	12,051.76	433.13	17,249.57	12,340.95	436.92	17,513.86	12,665.84	443.25
	High Case Total	23,387.57	15,882.97	494.95	23,823.09	16,215.81	498.38	24,289.44	16,579.16	504.50

Low Growth & High Price	Area	2015-2016: Residential	2015-2016: Commercial	2015-2016: Ind FirmSale	2016-2017: Residential	2016-2017: Commercial	2016-2017: Ind FirmSale	2017-2018: Residential	2017-2018: Commercial	2017-2018: Ind FirmSale
	Klam Falls	781.44	490.88	6.44	784.41	492.02	6.42	787.83	493.38	6.42
	La Grande	412.06	238.66	27.25	408.73	235.22	27.04	405.45	231.79	26.56
	Medford GTN	2,106.31	1,282.46	5.72	2,121.24	1,277.48	5.68	2,133.25	1,272.62	5.66
	Medford NWP	946.36	576.13	2.57	953.07	573.89	2.55	958.47	571.71	2.54
	Roseburg	801.30	650.15	15.87	813.48	651.97	15.82	824.49	652.25	15.70
	OR Sub-Total	5,047.47	3,238.28	57.85	5,080.92	3,230.58	57.52	5,109.50	3,221.75	56.88
	Wa/Id Both	7,785.80	5,613.23	229.22	7,670.51	5,636.80	229.43	7,577.46	5,675.64	230.44
	Wa/Id GTN	1,082.06	774.55	31.62	1,067.24	777.84	31.65	1,055.49	783.24	31.78
	Wa/Id NWP	4,657.88	3,294.00	134.37	4,602.77	3,308.28	134.50	4,560.66	3,331.51	135.08
	Wa/Id Sub-Total	13,525.73	9,681.78	395.20	13,340.51	9,722.91	395.58	13,193.61	9,790.39	397.30
	Low Case Total	18,573.20	12,920.06	453.05	18,421.44	12,953.49	453.09	18,303.10	13,012.14	454.18

Appendix 3.10 - C
Annual Demand by Class(Mdth/d)
(Net of DSM Savings)

Updated Expected with Low Elasticity

Area	2018-2019: Residential	2018-2019: Commercial	2018-2019: Ind FirmSale	2019-2020: Residential	2019-2020: Commercial	2019-2020: Ind FirmSale	2020-2021: Residential	2020-2021: Commercial	2020-2021: Ind FirmSale
Klam Falls	924.10	578.46	6.42	938.78	586.01	6.44	952.82	592.67	6.42
La Grande	454.58	251.44	27.12	458.25	250.72	27.13	462.18	250.16	26.94
Medford GTN	2,579.60	1,407.76	5.77	2,637.32	1,418.88	5.76	2,692.74	1,427.48	5.74
Medford NWP	1,159.01	632.41	2.59	1,184.95	637.40	2.59	1,209.85	641.26	2.58
Roseburg	1,050.63	756.87	15.97	1,085.94	765.94	15.93	1,121.17	774.30	15.86
OR Sub-Total	6,167.92	3,626.95	57.86	6,305.24	3,658.96	57.85	6,438.77	3,685.88	57.53
Wa/Id Both	8,923.16	6,624.82	243.55	8,984.21	6,762.06	245.48	9,053.86	6,890.56	247.17
Wa/Id GTN	1,242.19	914.20	33.59	1,251.72	933.17	33.86	1,262.32	950.94	34.09
Wa/Id NWP	5,362.05	3,888.40	142.77	5,410.56	3,969.34	143.90	5,462.87	4,045.13	144.89
Wa/Id Sub-Total	15,527.39	11,427.42	419.92	15,646.49	11,664.58	423.24	15,779.05	11,886.63	426.16
Expected Case Total	21,695.31	15,054.37	477.78	21,951.73	15,323.53	481.09	22,217.82	15,572.50	483.69

High Growth & Low Price

Area	2018-2019: Residential	2018-2019: Commercial	2018-2019: Ind FirmSale	2019-2020: Residential	2019-2020: Commercial	2019-2020: Ind FirmSale	2020-2021: Residential	2020-2021: Commercial	2020-2021: Ind FirmSale
Klam Falls	1,009.17	643.40	6.42	1,033.29	655.97	6.44	1,056.73	667.53	6.42
La Grande	482.98	260.03	27.54	490.04	259.92	27.55	497.37	260.02	27.35
Medford GTN	2,921.39	1,509.09	7.49	3,014.06	1,528.88	7.60	3,104.06	1,545.87	7.96
Medford NWP	1,312.57	677.94	3.37	1,354.20	686.83	3.42	1,394.65	694.45	3.58
Roseburg	1,234.76	856.13	16.10	1,290.96	871.97	16.06	1,347.01	887.02	16.00
OR Sub-Total	6,960.87	3,946.59	60.92	7,182.55	4,003.58	61.06	7,399.82	4,054.89	61.30
Wa/Id Both	10,239.78	7,539.50	262.20	10,428.84	7,758.21	265.15	10,627.55	7,967.57	267.90
Wa/Id GTN	1,423.79	1,040.36	36.17	1,450.98	1,070.57	36.57	1,479.38	1,099.49	36.95
Wa/Id NWP	6,133.86	4,424.60	153.71	6,257.42	4,553.29	155.43	6,385.38	4,676.48	157.05
Wa/Id Sub-Total	17,797.44	13,004.46	452.07	18,137.24	13,382.07	457.15	18,492.31	13,743.53	461.90
High Case Total	24,758.30	16,951.05	512.99	25,319.79	17,385.65	518.21	25,892.13	17,798.42	523.21

Low Growth & High Price

Area	2018-2019: Residential	2018-2019: Commercial	2018-2019: Ind FirmSale	2019-2020: Residential	2019-2020: Commercial	2019-2020: Ind FirmSale	2020-2021: Residential	2020-2021: Commercial	2020-2021: Ind FirmSale
Klam Falls	790.24	494.34	6.42	795.07	496.79	6.44	799.29	498.46	6.42
La Grande	402.29	228.45	26.06	402.54	227.13	26.07	402.96	225.89	25.89
Medford GTN	2,140.42	1,266.06	5.64	2,162.54	1,268.56	5.64	2,182.72	1,268.79	5.61
Medford NWP	961.70	568.75	2.53	971.64	569.87	2.53	980.71	569.96	2.52
Roseburg	836.74	652.94	15.61	850.97	655.52	15.57	865.17	657.36	15.51
OR Sub-Total	5,131.39	3,210.53	56.26	5,182.76	3,217.87	56.25	5,230.86	3,220.45	55.96
Wa/Id Both	7,493.10	5,720.23	232.05	7,430.45	5,780.09	233.39	7,374.93	5,831.44	233.78
Wa/Id GTN	1,044.94	789.43	32.01	1,037.41	797.73	32.19	1,030.75	804.85	32.25
Wa/Id NWP	4,523.74	3,358.13	136.03	4,499.74	3,393.70	136.82	4,478.67	3,424.27	137.05
Wa/Id Sub-Total	13,061.79	9,867.79	400.08	12,967.60	9,971.51	402.41	12,884.34	10,060.56	403.08
Low Case Total	18,193.17	13,078.33	456.35	18,150.36	13,189.39	458.66	18,115.19	13,281.01	459.03

Appendix 3.10 - C
Annual Demand by Class(Mdth/d)
(Net of DSM Savings)

Updated Expected with Low Elasticity	Area	2021-2022: Residential	2021-2022: Commercial	2021-2022: Ind FirmSale	2022-2023: Residential	2022-2023: Commercial	2022-2023: Ind FirmSale	2023-2024: Residential	2023-2024: Commercial	2023-2024: Ind FirmSale
	Klam Falls	968.29	600.40	6.42	983.85	609.08	6.42	1,000.48	619.04	6.44
	La Grande	467.00	250.12	26.94	471.86	250.57	26.94	476.71	251.16	26.75
	Medford GTN	2,744.34	1,435.09	5.74	2,803.29	1,447.72	5.73	2,862.77	1,461.37	5.74
	Medford NWP	1,233.04	644.68	2.58	1,259.53	650.35	2.58	1,286.26	656.47	2.58
	Roseburg	1,156.63	783.40	15.85	1,194.23	794.40	15.84	1,231.39	808.55	15.82
	OR Sub-Total	6,569.30	3,713.69	57.52	6,712.77	3,752.12	57.51	6,857.61	3,796.60	57.32
	Wa/Id Both	9,130.54	7,022.74	249.06	9,214.64	7,156.65	251.52	9,312.80	7,299.88	253.34
	Wa/Id GTN	1,273.90	969.21	34.35	1,286.50	987.72	34.69	1,301.05	1,007.52	34.94
	Wa/Id NWP	5,519.34	4,123.08	146.00	5,580.18	4,202.05	147.44	5,649.32	4,286.49	148.51
	Wa/Id Sub-Total	15,923.78	12,115.04	429.41	16,081.33	12,345.43	433.65	16,263.17	12,593.89	436.79
	Expected Case Total	22,493.07	15,828.73	486.93	22,794.09	16,098.56	491.16	23,120.78	16,390.49	494.11

High Growth & Low Price	Area	2021-2022: Residential	2021-2022: Commercial	2021-2022: Ind FirmSale	2022-2023: Residential	2022-2023: Commercial	2022-2023: Ind FirmSale	2023-2024: Residential	2023-2024: Commercial	2023-2024: Ind FirmSale
	Klam Falls	1,081.81	680.33	6.42	1,106.78	693.97	6.42	1,133.01	709.13	6.44
	La Grande	505.62	260.63	27.35	513.94	261.67	27.35	522.19	262.98	27.15
	Medford GTN	3,189.26	1,561.50	8.03	3,282.96	1,582.48	8.21	3,377.05	1,604.17	8.57
	Medford NWP	1,432.93	701.47	3.61	1,475.03	710.89	3.69	1,517.31	720.63	3.85
	Roseburg	1,403.15	902.88	15.98	1,461.84	920.70	15.97	1,519.83	943.01	15.95
	OR Sub-Total	7,612.76	4,106.81	61.39	7,840.55	4,169.71	61.64	8,069.39	4,239.92	61.96
	Wa/Id Both	10,835.33	8,180.71	270.78	11,052.90	8,395.55	274.57	11,286.95	8,621.07	277.07
	Wa/Id GTN	1,509.04	1,128.93	37.35	1,540.06	1,158.61	37.87	1,573.35	1,189.76	38.22
	Wa/Id NWP	6,518.70	4,801.89	158.73	6,657.78	4,928.30	160.95	6,806.58	5,060.98	162.42
	Wa/Id Sub-Total	18,863.07	14,111.53	466.86	19,250.74	14,482.47	473.39	19,666.88	14,872.01	477.71
	High Case Total	26,475.82	18,218.34	528.24	27,091.29	18,652.17	535.03	27,736.27	19,111.93	539.68

Low Growth & High Price	Area	2021-2022: Residential	2021-2022: Commercial	2021-2022: Ind FirmSale	2022-2023: Residential	2022-2023: Commercial	2022-2023: Ind FirmSale	2023-2024: Residential	2023-2024: Commercial	2023-2024: Ind FirmSale
	Klam Falls	804.85	501.03	6.42	810.42	504.62	6.42	816.93	509.37	6.44
	La Grande	404.20	225.23	25.89	405.50	224.95	25.89	406.82	224.95	25.71
	Medford GTN	2,200.16	1,268.44	5.61	2,223.59	1,272.68	5.61	2,247.71	1,278.29	5.62
	Medford NWP	988.55	569.80	2.52	999.09	571.70	2.52	1,009.93	574.22	2.52
	Roseburg	879.75	659.97	15.50	896.01	664.29	15.49	912.10	670.47	15.47
	OR Sub-Total	5,277.52	3,224.47	55.94	5,334.61	3,238.25	55.93	5,393.50	3,257.31	55.76
	Wa/Id Both	7,324.69	5,886.57	234.70	7,279.57	5,943.47	236.04	7,245.97	6,008.31	237.15
	Wa/Id GTN	1,024.82	812.50	32.37	1,019.60	820.39	32.56	1,015.97	829.37	32.71
	Wa/Id NWP	4,460.74	3,457.05	137.58	4,445.83	3,490.88	138.37	4,437.73	3,529.36	139.02
	Wa/Id Sub-Total	12,810.24	10,156.13	404.66	12,745.00	10,254.74	406.97	12,699.68	10,367.04	409.88
	Low Case Total	18,087.76	13,380.60	460.60	18,079.61	13,492.99	462.90	18,093.17	13,624.35	464.64

Appendix 3.10 - C
Annual Demand by Class(Mdth/d)
(Net of DSM Savings)

Updated Expected with Low Elasticity	Area	2024-2025: Residential	2024-2025: Commercial	2024-2025: Ind FirmSale	2025-2026: Residential	2025-2026: Commercial	2025-2026: Ind FirmSale	2026-2027: Residential	2026-2027: Commercial	2026-2027: Ind FirmSale
	Klam Falls	1,015.41	627.69	6.42	1,030.73	637.06	6.42	1,046.55	646.68	6.42
	La Grande	481.01	251.62	26.65	485.44	252.24	26.59	490.18	253.03	26.59
	Medford GTN	2,917.30	1,471.68	5.72	2,969.65	1,483.60	5.71	3,025.07	1,497.27	5.70
	Medford NWP	1,310.76	661.10	2.57	1,334.29	666.45	2.57	1,359.19	672.59	2.56
	Roseburg	1,261.35	818.87	15.78	1,292.96	830.76	15.77	1,318.09	839.53	15.68
	OR Sub-Total	6,985.83	3,830.95	57.13	7,113.06	3,870.10	57.06	7,239.08	3,909.10	56.95
	Wa/Id Both	9,389.75	7,428.92	254.99	9,489.16	7,577.13	256.92	9,573.54	7,713.18	259.37
	Wa/Id GTN	1,312.62	1,025.33	35.17	1,327.32	1,045.78	35.44	1,339.88	1,064.54	35.78
	Wa/Id NWP	5,705.43	4,362.52	149.47	5,775.05	4,449.76	150.61	5,835.14	4,529.84	152.05
	Wa/Id Sub-Total	16,407.81	12,816.76	439.63	16,591.53	13,072.66	442.96	16,748.56	13,307.57	447.20
	Expected Case Total	23,393.64	16,647.72	496.76	23,704.59	16,942.76	500.02	23,987.64	17,216.67	504.15

High Growth & Low Price	Area	2024-2025: Residential	2024-2025: Commercial	2024-2025: Ind FirmSale	2025-2026: Residential	2025-2026: Commercial	2025-2026: Ind FirmSale	2026-2027: Residential	2026-2027: Commercial	2026-2027: Ind FirmSale
	Klam Falls	1,157.34	722.64	6.42	1,182.07	736.98	6.42	1,207.37	751.54	6.42
	La Grande	529.82	264.09	27.06	537.59	265.31	26.99	545.69	266.77	26.99
	Medford GTN	3,465.24	1,621.95	8.57	3,549.65	1,641.46	8.80	3,637.30	1,662.87	9.12
	Medford NWP	1,556.94	728.61	3.85	1,594.87	737.37	3.95	1,634.25	746.99	4.10
	Roseburg	1,567.62	960.24	15.91	1,616.99	978.91	15.90	1,658.04	993.91	15.81
	OR Sub-Total	8,276.96	4,297.53	61.81	8,481.16	4,360.03	62.06	8,682.64	4,422.09	62.44
	Wa/Id Both	11,494.79	8,831.27	279.83	11,729.39	9,064.37	282.83	11,942.93	9,282.58	286.77
	Wa/Id GTN	1,602.97	1,218.76	38.60	1,636.32	1,250.91	39.01	1,666.69	1,281.01	39.55
	Wa/Id NWP	6,939.42	5,184.59	164.04	7,088.29	5,321.59	165.80	7,224.09	5,449.83	168.11
	Wa/Id Sub-Total	20,037.17	15,234.62	482.47	20,454.00	15,636.87	487.63	20,833.72	16,013.42	494.43
	High Case Total	28,314.14	19,532.15	544.27	28,935.16	19,996.90	549.70	29,516.35	20,435.51	556.87

Low Growth & High Price	Area	2024-2025: Residential	2024-2025: Commercial	2024-2025: Ind FirmSale	2025-2026: Residential	2025-2026: Commercial	2025-2026: Ind FirmSale	2026-2027: Residential	2026-2027: Commercial	2026-2027: Ind FirmSale
	Klam Falls	822.03	512.85	6.42	827.49	517.21	6.42	833.34	521.67	6.42
	La Grande	407.66	224.72	25.62	408.65	224.75	25.56	409.90	224.85	25.56
	Medford GTN	2,267.90	1,281.12	5.59	2,287.52	1,285.50	5.59	2,309.91	1,291.37	5.58
	Medford NWP	1,019.00	575.49	2.51	1,027.82	577.45	2.51	1,037.89	580.08	2.51
	Roseburg	924.00	674.12	15.43	937.65	679.33	15.43	946.78	682.20	15.34
	OR Sub-Total	5,440.60	3,268.30	55.58	5,489.14	3,284.24	55.51	5,537.82	3,300.16	55.41
	Wa/Id Both	7,196.06	6,060.04	237.72	7,164.23	6,127.26	238.75	7,123.30	6,184.92	240.10
	Wa/Id GTN	1,010.04	836.52	32.79	1,006.64	845.79	32.93	1,001.92	853.75	33.12
	Wa/Id NWP	4,419.48	3,560.07	139.35	4,412.16	3,599.84	139.96	4,398.79	3,633.96	140.75
	Wa/Id Sub-Total	12,625.59	10,456.62	409.87	12,583.03	10,572.89	411.64	12,524.01	10,672.63	413.96
	Low Case Total	18,066.18	13,724.93	465.44	18,072.17	13,857.13	467.16	18,061.83	13,972.79	469.37

Appendix 3.10 - C
Annual Demand by Class(Mdth/d)
(Net of DSM Savings)

Updated Expected with Low Elasticity

Area	2027-2028: Residential	2027-2028: Commercial	2027-2028: Ind FirmSale	2028-2029: Residential	2028-2029: Commercial	2028-2029: Ind FirmSale
Klam Falls	1,062.32	656.54	6.44	1,076.89	665.21	6.42
La Grande	495.65	254.18	26.60	498.85	254.18	26.41
Medford GTN	3,081.87	1,512.35	5.71	3,127.00	1,521.13	5.69
Medford NWP	1,384.71	679.36	2.57	1,405.00	683.29	2.56
Roseburg	1,348.11	851.12	15.67	1,374.87	862.79	15.60
OR Sub-Total	7,372.66	3,953.55	56.99	7,482.62	3,986.60	56.67
Wa/Id Both	9,700.08	7,858.91	261.92	9,812.47	7,989.85	263.75
Wa/Id GTN	1,358.06	1,084.65	36.13	1,374.28	1,102.71	36.38
Wa/Id NWP	5,917.66	4,615.61	153.54	5,991.76	4,692.70	154.61
Wa/Id Sub-Total	16,975.80	13,559.18	451.59	17,178.50	13,785.27	454.74
Expected Case Total	24,348.47	17,512.73	508.57	24,661.13	17,771.87	511.41

High Growth & Low Price

Area	2027-2028: Residential	2027-2028: Commercial	2027-2028: Ind FirmSale	2028-2029: Residential	2028-2029: Commercial	2028-2029: Ind FirmSale
Klam Falls	1,232.60	766.53	6.44	1,256.45	780.04	6.42
La Grande	554.59	268.59	27.00	560.94	269.16	26.81
Medford GTN	3,726.48	1,685.86	9.14	3,801.49	1,701.79	9.37
Medford NWP	1,674.32	757.31	4.10	1,708.03	764.46	4.21
Roseburg	1,705.18	1,012.19	15.80	1,748.17	1,031.34	15.72
OR Sub-Total	8,893.18	4,490.48	62.48	9,075.08	4,546.78	62.53
Wa/Id Both	12,200.19	9,512.24	290.44	12,439.23	9,722.62	293.32
Wa/Id GTN	1,702.90	1,312.69	40.06	1,736.59	1,341.71	40.46
Wa/Id NWP	7,383.25	5,584.81	170.26	7,531.58	5,708.46	171.94
Wa/Id Sub-Total	21,286.34	16,409.75	500.77	21,707.40	16,772.80	505.72
High Case Total	30,179.53	20,900.22	563.24	30,782.48	21,319.58	568.25

Low Growth & High Price

Area	2027-2028: Residential	2027-2028: Commercial	2027-2028: Ind FirmSale	2028-2029: Residential	2028-2029: Commercial	2028-2029: Ind FirmSale
Klam Falls	839.19	526.38	6.44	844.01	530.16	6.42
La Grande	411.78	225.35	25.57	411.78	224.72	25.39
Medford GTN	2,333.45	1,298.44	5.59	2,348.17	1,300.10	5.57
Medford NWP	1,048.47	583.25	2.51	1,055.09	583.99	2.50
Roseburg	959.48	687.29	15.33	969.85	691.67	15.26
OR Sub-Total	5,592.36	3,320.72	55.45	5,628.90	3,330.63	55.15
Wa/Id Both	7,123.00	6,250.75	241.61	7,112.18	6,305.64	242.15
Wa/Id GTN	1,002.60	862.83	33.33	1,001.82	870.41	33.40
Wa/Id NWP	4,406.96	3,672.90	141.63	4,408.83	3,705.41	141.95
Wa/Id Sub-Total	12,532.56	10,786.49	416.57	12,522.83	10,881.46	417.50
Low Case Total	18,124.92	14,107.21	472.02	18,151.73	14,212.08	472.65

APPENDIX 4.1

DSM IMPLEMENTATION AND OPERATIONS

APPENDIX 4.1 – DSM IMPLEMENTATION & OPERATIONS

AVISTA DSM COMMITMENT

Avista recognizes our obligation to meet the resource needs of customers in the most cost-effective manner. The delivery of conservation programs is anticipated to represent an increasing portion of the optimal resource portfolio. The IRP process is an opportunity to comprehensively review the conservation program portfolio and make necessary revisions to daily DSM operations and longer-term implementation plans in order to meet those commitments in the years to follow.

This document summarizes a broad evaluation of applicable conservation measures and identifies those worthy of testing against all other supply-side resources to assist us in making decisions about which measures would be suitable to carry forward into program development and implementation.

Through our TAC process we solicited comments from key stakeholders regarding the selection, characterization and testing of conservation measures within the IRP process. After much discussion and some revision, the general consensus of those stakeholders was that this approach was sufficient to represent conservation opportunities within the IRP.

There are concerns about our South Division due to the economic condition and high levels of unemployment that could constrain participation. We remain open to alternative approaches to overcoming those market barriers to include enhanced outreach efforts, revised incentives, and innovative marketing of conservation programs and cooperative arrangements with other agents in the market, with particular attention to other natural gas utilities, the Energy Trust of Oregon and regional market transformation efforts with an interest in natural gas efficiency.

Additionally, we are committed to maintaining a collaborative relationship with all stakeholders who may contribute to the improvement of DSM efforts as programs are further developed and launched. We continue to improve the management of these programs through development of additional metrics, improved reporting and benchmarking for determining the regulatory prudence of these programs.

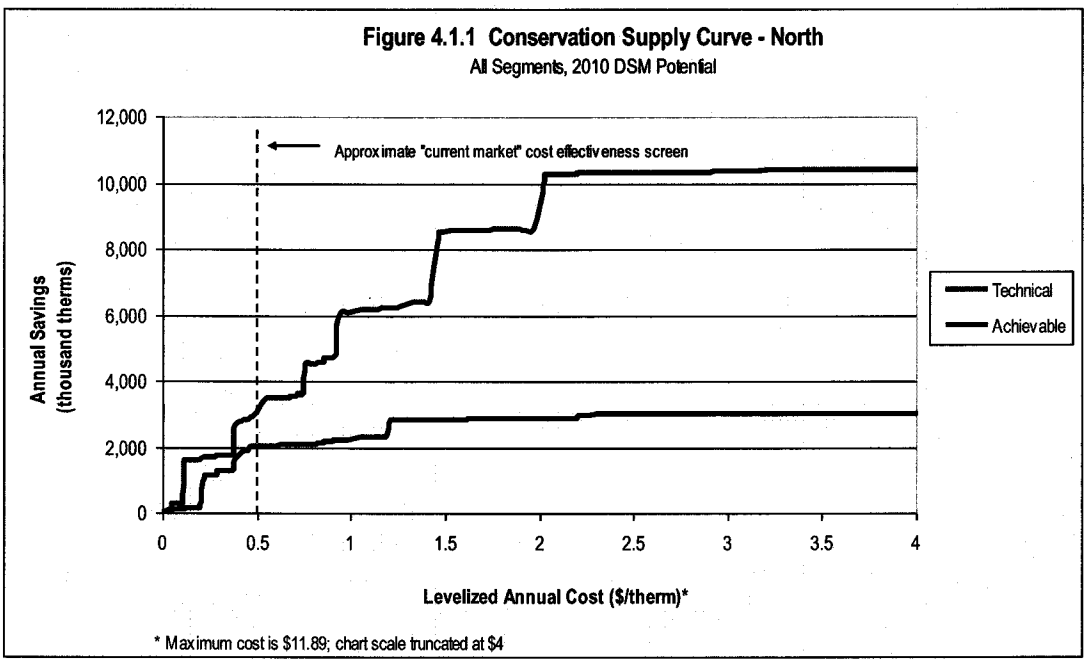
Avista recognizes that acquiring all cost-effective conservation potential is not limited by the therm acquisition goals established in this IRP. The implementation of the results of this planning will be sufficiently flexible to realize opportunities even if they are well in excess of expectations. Human and financial resources will be made available to the extent necessary to achieve the cost-effective potential without regard to those goals.

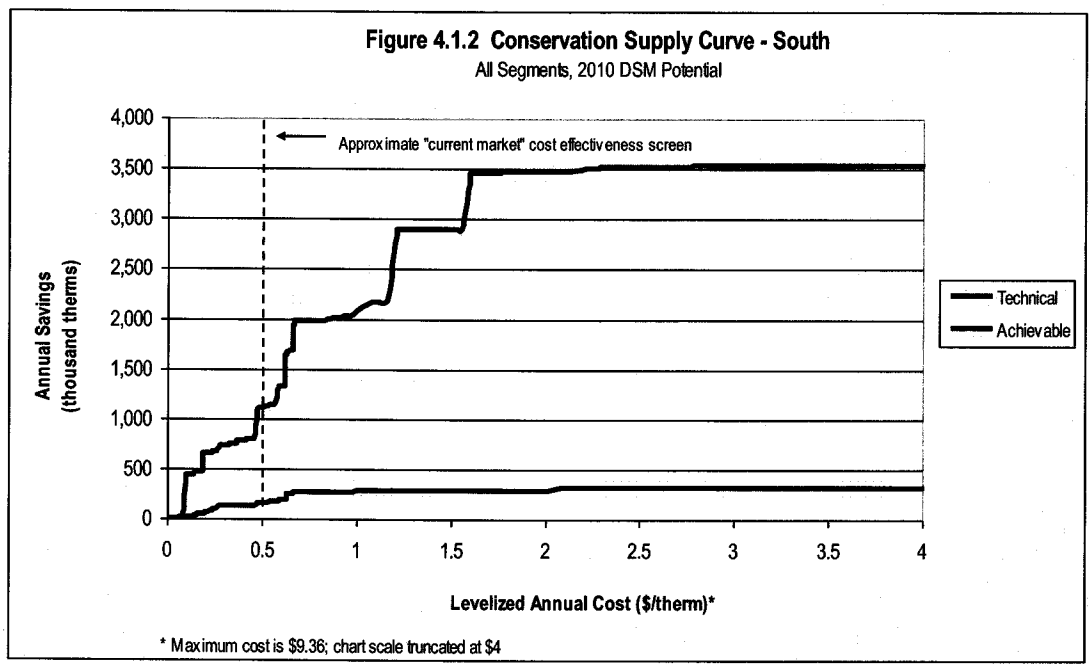
TECHNICAL AND ACHIEVABLE POTENTIAL

In 2005, Avista contracted with RLW Analytics, a conservation consultant, to independently identify and analyze the potential energy savings for our Oregon service territories. The methodology from this study was extrapolated to Washington and Idaho and served as the initial basis for determining

conservation technical potential for all of Avista's natural gas service territories. The energy savings data for weather-sensitive measures were adjusted to incorporate local HDD data appropriate to each geographic area. Avista DSM engineers, program implementers and analysts also reviewed the RLW estimates of incremental measure costs, measure lives, energy savings, and other inputs and assumptions making adjustments when knowledge of local factors differed from the more generalized assumptions used in the study. Since 2005, we have made adjustments and updates to incorporate new information regarding measure cost and energy savings, and have augmented the study with additional measures not previously evaluated.

Figures 4.1.1 and 4.1.2 depict supply curves for technical and achievable potential for our North and South divisions.





Avista's achievable potential as a percentage of technical potential appears to be lower than other regional utilities. However, our actual per customer savings acquired compare favorably with other regional utilities. Unlike other regional utilities that have selected an overall percentage of their technical potential to estimate achievable potential, Avista analyzes each measure's likely installation rate to establish measure by measure achievable potential. Engineers and program implementers begin their evaluation with the number of customers in a division broken down by the estimated percentage that is single family, multifamily or manufactured homes. The applications are evaluated based on how many have or could have access to an application in their home or facility and, finally, how many applications would be replaced with a higher efficiency option over the standard option over the twenty year horizon. This methodology used to develop achievable potential tracks with our actual results and is comparable with other regional utilities.

For perspective, we indicate a cost effectiveness screen of $0.50 per therm based on an approximate current market commodity cost of $5 per Dth. Around this level, Avista's achievable potential tracks much closer with the technical potential and is similar to other regional utilities.

We have tried to identify differences that create the large gap between our achievable potential and RLW's technical potential. We did not identify every difference but we did make changes to technical potential that we could support and document. Some examples were:

- The pre-rinse sprayer program was a one-time, non-recurring, non-residential program where Avista pursued installations of sprayers in all existing applications. Since these sprayers are now code, the savings will not recur. Therefore, we removed savings associated with pre-rinse sprayers from the RLW technical potential.
- The same technical potential was listed for all water heater applications, so it appears that RLW failed to consider the mutually exclusivity of the various types of water heaters. A

single-family residential customer typically only has one water heater application in their home. However, RLW included that same customer in the technical potential for tanked, tankless, and passive solar water heaters. We think this same issue may exist for other measures but we could not verify this, so an adjustment was made only to the water heaters technical potential.

- In the past, Oregon Staff has generally disapproved faucet aerators and low-flow showerheads as viable measures with demonstrable savings, so we removed the savings associated with these two measures.
- RLW included nearly 3,000 units of thermal vent dampers in a multi-family application. Based on our market knowledge, we felt this number of the entire population was overestimated and was more realistic at 1,000 units. This resulted in a decrease in technical potential of 54,000 therms.

While this is not a complete list of potential differences with RLW's estimate of technical potential, this concern should be resolved with a new external study of technical potential which we intend to pursue prior to completion of the 2011 IRP.

The following sections discuss Avista's DSM programs and how the IRP results are incorporated into DSM operations.

SOUTH DIVISION DSM PORTFOLIO

Avista's residential measures are available to approximately 84,000 customers (Avista Rate Schedule 410) with an annual consumption of 50.5 million therms. The commercial measures are available to nearly 11,200 mostly small-to-medium-sized customers (Avista Rate Schedules 420 and 424) with an annual consumption of approximately 32.3 million therms. The largest segment of qualified non-residential customers use natural gas for space, water heating and cooking with an average consumption of nearly 2,900 therms each.

The measures offer a mix of both currently cost effective and market transformation measures which are expected to be cost-effective over time. The combined residential and non-residential therm goal for 2010 is 326,314 and 324,314 for 2011. Details on individual measures such as measure life, levelized TRC, unit goal, and therm goal can be found in Appendix 4.2.

RESIDENTIAL SEGMENT

Avista's residential program consists of site specific and prescriptive measures and includes a mix of currently cost effective measures and market transformation measures which are expected to be cost-effective. The 2010 residential therm goal is 215,580 and 206,333 in 2011.

Avista's residential site specific program is primarily focused on cost effective shell measures. Changes made to the program in early 2007 include: higher incentive levels, removal of all non cost effective measures and requiring window upgrades to be included with at least one other major

measure. We will consider additional enhancements as they are identified to increase program participation.

We also offer prescriptive incentives such as tankless water heaters, high-efficiency direct vent space heaters, external chimney dampers, programmable thermostats, high efficiency forced air furnaces and high efficiency tank water heaters.

In the majority of cases, tank water heaters are replaced on "burn out" with the high efficiency models costing, on average, $120 more than standard efficiency models. Product availability has gotten better, but continues to be an issue going forward. We believe that to affect the incremental cost and maintain availability, that high efficiency tank water heaters should be retained as a "market transformation" program in 2010 and 2011.

We also believe building a strong trade ally network is the best way to promote the acceptance of higher efficiency equipment. Our trade allies currently include HVAC dealers, plumbers, retailers, manufacturers, distributors along with builders and developers. Avista has also established relationships with groups such as the home builders association and landlord associations throughout its service territory.

NON-RESIDENTIAL SEGMENT

Prior to 2007, our non-residential measures were site-specific offerings only. In early 2007, Avista added several cost effective prescriptive measures such as high-efficiency space heating equipment, Energy Star gas fryers, Energy Star three pan gas steam cookers and high-efficiency gas rack ovens.

The non-residential therm acquisition goal for 2010 is 110,734 and 118,650 for 2011. Avista also expects to add new prescriptive measures in 2009. Measures being considered include cost effective shell measures and additional commercial kitchen measures. Measures with low achievable potential, technologies new to the marketplace or where natural gas is used for process will continue to be evaluated on a site specific basis.

We believe that by adding additional prescriptive measures, the program will be accessible by a greater number of customers, will be easier to manage at less cost and will result in higher participation levels in the small to medium sized customer segments. Measures not included in the prescriptive program will continue to be evaluated on a site specific basis.

Avista plans to increase efforts to identify cost effective, site specific opportunities with our larger non-residential customers. Resources will be reallocated to support this initiative.

In addition, we will continue to look for opportunities to work cooperatively with the ETO where site specific efficiency projects are identified. We will also work closely with local land-use planners and energy consultants on new non-residential projects to influence energy efficiency decisions during the design phase.

MEASURE DEVELOPMENT

Avista will continue to look at the "best fit" for program implementation. Implementation options could include a combined effort between Avista's North and South divisions, additional staffing, Energy Trust of Oregon (ETO), trade partners, and if developed, regional transformation efforts through a natural gas Northwest Energy Efficiency Alliance (NEEA).

NORTH DIVISION DSM PORTFOLIO

Conservation measures have been offered to Washington and Idaho customers without interruption since 2001 and periodically prior to that time.

A non-binding external oversight group, the External Energy Efficiency ("Triple-E") Board, has been established to provide guidance for the implementation of DSM measures. This board is provided with monthly and quarterly updates, convenes twice a year and receives a comprehensive annual evaluation of acquisition and cost-effectiveness.

Avista's Rate Schedule 190 provides the regulatory guidelines for the implementation of DSM measures. This tariff prescribes a set of tiered, direct financial incentives, as illustrated in Table 4.1.1, based on the customer simple payback of the measure.

Table 4.1.1 - Natural Gas Efficiency Measures Incentive Levels

Simple Pay-back Period	Incentive Level ($/first year therm)
1 to 2 years	$2.00
2 to 4 years	$2.50
4 to 6 years	$3.00
Over 6 years	$3.50

Exceptions to these tiered incentives allow us flexibility to respond to unexpected or unique opportunities. This flexibility includes an additional set of tiered incentives, permitting higher incentives for the development of new technologies and market transformation efforts.

The original 2001 Schedule 190 tariff established an annual goal of 240,000 first-year therms. Almost immediately upon launch of the renewed gas-efficiency program, commodity-driven escalations in retail rates during the 2001 Western energy crisis drove acquisition well beyond these levels. Initial concerns that this higher level of acquisition may be unsustainable proved to be unfounded. A reassessment of the market in the 2007 Gas IRP process resulted in the establishment of a 1,425,070 annual therm goal for 2008 and 1,581,828 for 2009. The 2008 goal has proven to be achievable. Whether or not the 2009 goal is achievable remains to be seen as customers react within a struggling economy.

Beginning in 2015, carbon mitigation and other cost adders we model lead to significantly increased avoided cost in later years. The corresponding increased measure selection by our model results in preliminary 2010 and 2011 savings goals which will be a challenge. Current declining retail rates for our customers make it difficult to influence them to react to forecasted price increases. Alternate scenarios modeled without the adders result in goals more inline with historical IRP goals.

It is possible that detailed implementation planning will result in the recommendation for revisions to the incentive levels, caps and applicable markets, and technologies as part of an overall strategy to meet the commitments made for increased long-term resource acquisition identified within this IRP.

Our conservation offerings within our North Division are accompanied by a mix of electric measures. In 2008 the natural gas share of the total BTU savings from the overall portfolio was 88 percent. This share shifts over time depending on resource opportunities, retail rates, technical advancements and customer interest. DSM implementation efforts within the North Division are further subdivided into three different portfolios; (1) the non-residential portfolio, (2) the residential portfolio and (3) the low-income residential portfolio. The approaches to the implementation of these three portfolios differ significantly in recognition of the differences in these market segments.

NON-RESIDENTIAL SEGMENT

While the non-residential portfolio has access to prescriptive measures, it is mainly characterized by its non-prescriptive approach to this market which provides incentives for any cost-effective project. Financial incentives are offered for projects based on the tiered incentive structure described above. This approach ensures that the unique operating characteristics of commercial and industrial customers are recognized. Prescriptive programs are limited to measures and applications with standard energy savings and cost characteristics or where a standardized approach can be developed. To simplify programs for our customers and trade allies and maximize program participation, we have been shifting towards more prescriptive non-residential programs.

In 2008, Avista acquired 1,036,424 therms from this portfolio (55 percent of the total acquisition of all three segments). Fifty-four percent of the total non-interactive energy (electric and natural gas) acquisition is attributable to therm saving within this segment.

Large projects, those resulting in incentives of $100,000 or larger, are disclosed to the Triple-E board to provide them with the information necessary to provide oversight of DSM programs.

RESIDENTIAL SEGMENT

Due to the large volume and relatively small size of individual projects, the residential portfolio is exclusively composed of prescriptive programs. In 2008 this portfolio was responsible for the acquisition of 749,199 first-year therms (40% of the total acquisition of all three segments). Of the non-interactive total energy (electric and natural gas) savings in 2008 from this portfolio, 39 percent are attributable to therm savings of this segment.

Incentives available for residential programs are calculated based on the application of the measure in a typical residential home or, in some cases, based on deemed savings. Calculations are made in accordance with Avista Rate Schedule 190 tiered incentives with appropriate modifications for potential differences in application, multiple measure programs and rounding for purposes of offering a customer and trade ally-friendly program. The prescriptive residential programs currently available are natural gas furnaces/boilers, high efficiency water heaters, tankless water heaters, ceiling/attic insulation, floor/wall insulation, windows, and rooftop dampers.

Notably, several multifamily housing measures are incorporated within the residential segment due to the non-residential electric and natural gas rate schedules that many of these customers are billed. Many of the multifamily measures evaluated as part of this IRP analysis (e.g. pool and spa water heating efficiencies in multifamily housing) will be forwarded to the residential segment implementation team for further evaluation.

Avista is continuing an outreach effort targeted at residential customers within our service territory through involvement at area community events. The outreach effort is geared toward improving conservation by providing continuing educational messages regarding behavioral effects on energy use as well as encouraging customers to participate in programs that improve the efficiency of key natural gas appliances or shell measures.

In addition, we continue our multi-channel, multi-year educational outreach effort, known as Every Little Bit. Included in this effort is an website, www.everylittlebit.com, which provides a one-stop shop for energy efficiency information and tips, available rebates, latest information on renewable energy, as well as an interactive audit tool where customers can audit their home's energy efficiency and gain insight on improvements that can be made.

LOW-INCOME RESIDENTIAL SEGMENT

Avista's north division low income programs are implemented in cooperation with six community action partnership (CAP) agencies. These CAP agencies are awarded an annual funding contract specifying the maximum funding amounts and the conditions for program implementation. Contracts can be revised on 30 days' notice, a provision that allows Avista flexibility to reallocate funds among the CAP agencies during the year to maximize their value to the customer base.

The CAP agencies and 2008/2009 funding levels are summarized in Table 4.1.2.

Table 4.1.2 - 2008/2009 Low Income Funding Levels

Community Action Partner	2008 Budget	2009 Budget
Lewiston CAP	$480,937	$660,000
North Columbia CAC (Moses Lake)	97,316	125,000
Rural Resources CA (Colville)	81,990	105,000
SNAP (Spokane)	722,919	950,000
Whitman County CAC (Pullman)	95,758	125,000
WGAP (White Salmon)	3,080	7,000
	$1,482,000	$1,972,000

The distribution of funding for the low income segment has been approached with the intent to provide the maximum flexibility possible. This permits the agencies to respond to unexpected urgent needs and energy-efficiency opportunities that may not have been anticipated when the annual contracts were signed.

As part of this flexibility, the CAP agencies are permitted to expend their contractual funding on either electric or natural gas-efficiency measures. The funding available includes an allowable 15 percent remuneration to the agency for administrative and outreach costs. Up to 15 percent of the

funds can be expended for health and human safety measures with an emphasis on the safe use of energy, and maintenance and repairs necessary to ensure the longevity of installed efficiency measures and continued habitability of the home.

The low income residential segment delivered 102,438 first-year therms to the overall natural gas DSM program in 2008. This therm acquisition represented 5 percent of the total BTUs acquired by the combined electric and natural gas programs.

PROGRAM FUNDING

Avista's approach to conservation cost-recovery is through a public purpose surcharge on our customer's energy bill (the tariff rider). We currently manage separate tariff riders for Washington and Idaho natural gas investments. Based upon the demand for funds and incoming tariff rider contributions, this balance can be positive (shareholders owe customers) or negative (customers owe shareholders) at any particular point in time.

The aggregate natural gas tariff rider balance for the north division is a negative (customer owes shareholders) $4,047,415 as of July 30, 2009. Recent demand for conservation services has exceeded tariff rider revenue. Therefore, we recently requested increases to Schedule 191, the most recent of which went into effect in Idaho on August 1, 2009. The most recent projection forecasts a positive (shareholders owe customers) $74 thousand balance in the Washington natural gas DSM tariff rider and just below $21 thousand positive in the Idaho natural gas tariff balance by year end 2010.

Funding for the natural gas efficiency programs is derived through a surcharge on retail rates authorized under Schedule 191. The recent increases to the Washington and Idaho natural gas surcharges were necessary to eliminate a persistent imbalance of tariff rider contributions and natural gas program expenditures. This imbalance tends to grow during the periods of increasing commodity costs and we continue to see higher than budgeted demand in program incentives. For example, in 2008 natural gas tariff rider contributions were over $4.3 million while we paid customers nearly $5.1 million in natural gas incentives, making incentives 117% of tariff rider contributions collected. Prior to consideration of infrastructure and other implementation costs, this puts Avista in a situation of a negative balance.

Only those customers contributing to the program funding through Avista Rate Schedule 191 are eligible to receive financial incentives. This limits availability to core natural gas customers. Periodically we claim the acquisition of natural gas savings from transport customers if those efficiencies result from involvement in a project that is tightly interwoven with an electric-efficiency project that was being evaluated and funded under the company's electric DSM program.

COOPERATIVE REGIONAL PROGRAMS

Avista has and remains interested in testing the viability of a regional market transformation approach to the acquisition of natural gas-efficiency potential. This model has proven to be

successful within Northwest electric markets as evidenced by the success of the Northwest Energy Efficiency Alliance (NEEA). Though recent efforts at partnering with NEEA and establishing limited ad hoc regional efforts on the natural gas side have been unsuccessful, we will continue to seek alliances with other Northwest utilities to advance this concept.

CONCLUSION

We have explicitly recognized within this IRP our obligation to achieve all natural gas-efficiency resources available through utility intervention of cost-effective programs. Given the rapid changes within the natural gas market, many new efficiency opportunities may arise in the market. The Company will continue to consider and evaluate any developing technologies for inclusion in our programs between IRPs. Considerable uncertainty remains regarding the customer response to these programs, since this is a time of economic uncertainty at a time when retail gas prices are declining. Historically, we have seen less participation as prices decline. However, this uncertainty does not preclude us from pursuing the planned aggressive ramp-up of natural gas-efficiency programs. Additionally, we have, and will continue to actively seek, opportunities for new or enhanced resource acquisition through the development of cooperative regional programs.

One of the results of the IRP process is a 20-year forecast of avoided costs for each of the eight geographic areas. The detailed nature of these avoided costs makes it possible to continue to evaluate measures and applications as technology and markets change without the need to await the next IRP process. This is of value in determining program cost effectiveness based upon updated inputs, revised program plans and the ability to determine the value of targeting specific markets. Avoided cost determination is discussed in detail in Chapter 6 – Integrated Resource Portfolio.

The completion of the IRP analysis is the midpoint, not the ending point, of a larger reassessment of the DSM resource portfolio. The IRP analysis presented has generally indicated a set of cost effective measures and achievable resource potential for a future DSM portfolio. These results remain in need of further evaluation to facilitate the development of program plans and to incorporate them into an updated DSM implementation plan for use in daily DSM operations.

APPENDIX 4.2

CONSERVATION MEASURES DETAIL

Appendix 4.2 - Oregon DSM Programs Details

Measure #	Measure	Original measure application	Market segment	Program bundle	Incremental TRC cost / unit	Non-Energy Benefits	First yr therm svgs / unit	Winter or Annual	Measure life	Levelized TRC cost / therm	Levelized TRC cost/therm w/o NEBs	New Acquirable Potential (units)	Technical Potential	Annual therm acquirable potential	Annual total (for whole pgm) cost less NEB credit	Achieveable Therms Entered into SENDOUT®	SENDOUT® Code
1	Air sealing weatherstripping	SFH replacement	Residential	Shell	$ 250	$ -	51	W	10	$ 0.61	$ 0.61	33		1,645	$ 8,128.13	1,645	ResYel1
2	Air sealing weatherstripping	MFH replacement	Residential	Shell	$ 150	$ -	30	W	10	$ 0.61	$ 0.61	8		232	$ 1,147.50	232	ResYel2
3	Air sealing weatherstripping	MH retro	Residential	Shell	$ -	$ -	0	W	25	$ -	$ -	5,000		100	$ -	100	ResMTW
4	Attic insulation	MFH retro	Residential	Shell	$ 1	$ -	0	W	45	$ 1.90	$ 1.90	10,000		366	$ 14,000.00	366	ResRed1
5	Attic insulation	SFH retro	Residential	Shell	$ 666	$ -	59	W	45	$ 0.56	$ 0.56	217		12,786	$ 144,355.50	12,786	ResMTW
6	Blow-in insulation for roof	MH retro	Residential	Shell	$ 1	$ -	0	W	25	$ 1.30	$ 1.30	2,000		100	$ 2,000.00	100	ResRed1
7	Boiler tune-up	MFH retro	Residential	HVAC	$ 100	$ -	27	W	5	$ 0.85	$ 0.85	9		226	$ 850.00	226	ResYel3
8	Combo boiler	SFH retro	Residential	DHW	$ 3,850	$ -	180	A	20	$ 1.60	$ 1.60	4		650	$ 13,908.13	650	ResRed2
9	Combo boiler (air)	MFH retro	Residential	DHW	$ 3,850	$ -	180	A	20	$ 1.60	$ 1.60	2		383	$ 8,181.25	383	ResRed2
10	Combo boiler (air)	New SFH	Residential	DHW	$ 2,700	$ -	71	A	20	$ 2.84	$ 2.84	1		54	$ 2,065.50	54	ResRed2
11	Combo boiler (hydronic)	New SFH	Residential	DHW	$ 2,200	$ -	71	A	20	$ 2.32	$ 2.32	3		217	$ 6,732.00	217	ResRed2
12	Condensing boiler	MFH replacement	Residential	HVAC	$ 570	$ -	80	W	20	$ 0.53	$ 0.53	2		122	$ 872.10	122	ResMTW
13	Condensing boiler	New MFH	Residential	HVAC	$ 570	$ -	80	W	20	$ 0.53	$ 0.53	2		122	$ 872.10	122	ResMTW
14	Condensing boiler	MFH replacement	Residential	DHW	$ 570	$ -	80	W	20	$ 0.53	$ 0.53	1		61	$ 436.05	61	ResMTW
15	Condensing boiler	New MFH	Residential	DHW	$ 570	$ -	80	W	20	$ 0.53	$ 0.53	1		61	$ 436.05	61	ResMTW
16	Direct vent gas unit heater	SFH replacement	Residential	HVAC	$ 713	$ -	127	W	20	$ 0.42	$ 0.42	1		77	$ 436.36	77	ResMTW
17	Direct vent gas unit heater	SFH retro	Residential	HVAC	$ 1,560	$ -	127	W	20	$ 0.92	$ 0.92	4		457	$ 5,635.50	457	ResYel4
18	Duct commissioning	New SFH	Residential	HVAC	$ 300	$ -	60	W	20	$ 0.37	$ 0.37	7		390	$ 1,950.75	390	ResMTW
19	Duct insulation retrofit	SFH retro	Residential	HVAC	$ 459	$ -	93	W	20	$ 0.37	$ 0.37	28		2,576	$ 12,684.75	2,576	ResMTW
20	Duct insulation retrofit	MFH retro	Residential	HVAC	$ 275	$ -	47	W	20	$ 0.44	$ 0.44	1		40	$ 233.75	40	ResMTW
21	Duct sealing	SFH retro	Residential	HVAC	$ 800	$ -	125	W	20	$ 0.48	$ 0.48	31		3,839	$ 24,565.00	3,839	ResMTW
22	Duct sealing	MFH retro	Residential	HVAC	$ 800	$ -	63	W	20	$ 0.96	$ 0.96	4		266	$ 3,400.00	266	ResYel5
23	Duct sealing	MH retro	Residential	HVAC	$ 200	$ -	75	W	20	$ 0.20	$ 0.20	5		398	$ 1,062.50	398	ResMTW
24	Energy Star Clothes Washers	SFH	Residential	Appliances	$ 150	$ 63	5	A	13	$ 1.76	$ 3.04	858		4,290	$ 74,643.28	4,290	ResRed2
25	Energy Star Dishwasher	SFH retro	Residential	Appliances	$ 50	$ 37	5	A	13	$ 0.26	$ 1.01	434		2,168	$ 5,635.50	2,168	ResMTA
26	Energy Star Dishwasher	MFH retro	Residential	Appliances	$ 50	$ 37	5	A	13	$ 0.26	$ 1.01	43		213	$ 552.50	213	ResMTA
27	Energy Star Dishwasher	MH retro	Residential	Appliances	$ 50	$ 37	5	A	13	$ 0.26	$ 1.01	40		199	$ 517.97	199	REsMTA
28	Energy Star Windows	MFH retro	Residential	Shell	$ 392	$ -	68	W	45	$ 0.29	$ 0.29	13		866	$ 4,998.00	866	ResMTW
29	Energy Star Windows	SFH retro	Residential	Shell	$ 500	$ -	89	W	45	$ 0.28	$ 0.28	145		12,796	$ 72,250.00	12,796	ResMTW
30	Fireplace dampers	SFH retro	Residential	Shell	$ 200	$ -	76	W	15	$ 0.24	$ 0.24	7		538	$ 1,416.67	538	ResMTW
31	Floor insulation	MFH retro	Residential	Shell	$ 1,200	$ -	45	W	45	$ 1.32	$ 1.32	2		77	$ 2,040.00	77	ResRed1
32	Floor insulation	SFH retro	Residential	Shell	$ 1,244	$ -	128	W	45	$ 0.48	$ 0.48	108		13,912	$ 134,818.50	13,912	ResMTW
33	Furnace retrofit	SFH retro	Residential	HVAC	$ 600	$ -	71	W	20	$ 0.64	$ 0.64	253		17,843	$ 151,725.00	17,843	ResYel6
34	Furnace retrofit	MFH retro	Residential	HVAC	$ 600	$ -	71	W	20	$ 0.63	$ 0.63	4		302	$ 2,550.00	302	ResYel7
35	Furnace tune-up	MH retro	Residential	HVAC	$ 200	$ -	10	W	3	$ 7.23	$ 7.23	48		478	$ 9,562.50	478	ResRed1
36	Gas Pool Heater	New SFH	Residential	HVAC	$ 3,364	$ -	373	W	20	$ 0.67	$ 0.67	1		373	$ 3,364.00	373	ResYel8
37	Gas Pool Heater	SFH replacement	Residential	HVAC	$ 3,364	$ -	373	W	20	$ 0.67	$ 0.67	1		364	$ 3,281.16	364	ResYel9
38	Gas Pool Heater	MFH replacement	Residential	HVAC	$ 3,364	$ -	373	W	20	$ 0.67	$ 0.67	1		190	$ 1,715.64	190	ResYel10
39	Gas Pool Heater	SFH retro	Residential	HVAC	$ 8,651	$ -	373	W	20	$ 1.73	$ 1.73	1		404	$ 9,375.52	404	ResRed1
40	Gas Pool Heater	MFH retro	Residential	HVAC	$ 8,651	$ -	373	W	20	$ 1.73	$ 1.73	0		95	$ 2,206.01	95	ResRed1
41	Heating System Maintenance (filter/tune-up)	SFH	Residential	HVAC	$ 200	$ -	50	W	2	$ 2.13	$ 2.13	542		27,094	$ 108,375.00	27,094	ResRed1
42	High efficiency boiler	New SFH	Residential	HVAC	$ 1,000	$ -	40	W	20	$ 1.87	$ 1.87	8		312	$ 7,803.00	312	ResRed1
43	High efficiency boiler	MFH replacement	Residential	DHW	$ 5,000	$ -	40	W	20	$ 9.36	$ 9.36	2		85	$ 10,625.00	85	ResRed1
44	High efficiency furnace	SFH replacement	Residential	HVAC	$ 600	$ -	71	W	20	$ 0.63	$ 0.63	325		23,084	$ 195,075.00	23,084	ResYel11
45	High efficiency furnace	New SFH	Residential	HVAC	$ 600	$ -	71	W	20	$ 0.63	$ 0.63	253		17,954	$ 151,725.00	17,954	ResYel12
46	High efficiency furnace	MFH replacement	Residential	HVAC	$ 600	$ -	71	W	20	$ 0.63	$ 0.63	2		151	$ 1,275.00	151	ResYel13
47	High efficiency water heater (tanked)	SFH replacement	Residential	DHW	$ 60	$ -	27	A	12	$ 0.24	$ 0.24	81		2,195	$ 4,876.88	2,195	ResMTA
48	High efficiency water heater (tanked)	New SFH	Residential	DHW	$ 60	$ -	27	A	12	$ 0.24	$ 0.24	65		1,756	$ 3,901.50	1,756	ResMTA
49	High efficiency water heater (tanked)	New MFH	Residential	DHW	$ 60	$ -	27	A	12	$ 0.24	$ 0.24	84		2,272	$ 5,049.00	2,272	ResMTA
50	High efficiency water heater (tanked)	SFH retro	Residential	DHW	$ 260	$ -	27	A	12	$ 1.04	$ 1.04	72		1,936	$ 18,646.88	1,936	ResRed2
51	Horizontal axis clothes washer	New SFH	Residential	Appliances	$ 150	$ 63	5	A	13	$ 1.77	$ 3.04	434		2,168	$ 37,910.16	2,168	ResRed2

Measure #	Measure	Original measure application	Market segment	Program bundle	Incremental TRC cost / unit	Non-Energy Benefits	First yr therm svgs / unit	Winter or Annual	Measure life	**Levelized TRC cost / therm**	Levelized TRC cost/therm w/o NEBs	New Acquirable Potential (units)	Technical Potential	Annual therm acquirable potential	Annual total (for whole pgm) cost less NEB credit	Achieveable Therms Entered into SENDOUT®	SENDOUT® Code
52	Horizontal axis clothes washer	SFH retro	Residential	Appliances	$ 150	$ 63	5	A	13	$ **1.76**	$ 3.04	461		2,303	$ 40,071.66	2,303	ResRed2
53	Passive solar water heating	SFH retro	Residential	DHW	$ 2,000	$ -	150	A	15	$ **1.21**	$ 1.21	1	714	90	$ 1,200.00	90	ResRed2
54	Passive solar water heating	New SFH	Residential	DHW	$ 2,000	$ -	150	A	15	$ **1.21**	$ 1.21	2		225	$ 3,000.00	225	ResRed2
55	Pipe insulation	SFH retro	Residential	DHW	$ 121	$ -	10	A	15	$ **1.10**	$ 1.10	36	51	361	$ 4,371.13	361	ResRed2
56	Pipe insulation/wrap - long wrap (min 15ft)	MH retro	Residential	DHW	$ 15	$ -	2	A	15	$ **0.62**	$ 0.62	4		9	$ 59.77	9	ResYel14
57	Pipe insulation/wrap - short wrap (min 3ft)	MH retro	Residential	DHW	$ 5	$ -	1	A	15	$ **0.57**	$ 0.57	4		3	$ 19.92	3	ResYel15
58	Pool blanket	New SFH	Residential	DHW	$ 1,100	$0	1,360	A	10	$ **0.10**	$ 0.10	0	424	408	$ 330.00	408	ResMTA
59	Programmable Thermostat	New SFH	Residential	HVAC	$ 75	$0	27	W	20	$ **0.21**	$ 0.21	200		5,400	$ 15,000.00	5,400	ResMTW
60	Programmable Thermostat	SFH replacement	Residential	HVAC	$ 75	$ -	27	W	20	$ **0.21**	$ 0.21	200		5,400	$ 15,000.00	5,400	ResMTW
61	Programmable Thermostat	SFH retro	Residential	HVAC	$ 75	$ -	27	W	20	$ **0.21**	$ 0.21	200		5,400	$ 15,000.00	5,400	ResMTW
62	Tankless water heater	SFH replacement	Residential	DHW	$ 800	$ -	90	A	20	$ **0.66**	$ 0.66	75	18	6,730	$ 59,823.00	6,730	ResYel16
63	Tankless water heater	MFH replacement	Residential	DHW	$ 800	$ -	90	A	20	$ **0.66**	$ 0.66	0	2	38	$ 340.00	38	ResYel17
64	Tankless water heater	SFH retro	Residential	DHW	$ 800	$ -	90	A	20	$ **0.66**	$ 0.66	72	225	6,503	$ 57,800.00	6,503	ResYel18
65	Tankless water heater	MFH retro	Residential	DHW	$ 800	$ -	90	A	20	$ **0.66**	$ 0.66	0	2	38	$ 340.00	38	ResYel19
66	Tankless water heater	SFH	Residential	DHW	$ 700	$ -	102	A	15	$ **0.63**	$ 0.63	65	306	6,633	$ 45,517.50	6,633	ResYel20
67	Thermal Vent Damper	MFH retro	Residential	HVAC	$ 60	$ -	27	W	12	$ **0.24**	$ 0.24	383		10,187	$ 22,950.00	10,187	ResMTW
68	Wall insulation	SFH retro	Residential	Shell	$ 2	$ -	0	W	45	$ **0.15**	$ 0.15	3,853	2	1,896	$ 5,780.00	1,896	ResMTW
69	BBQ / Rotisserie Oven	Cooking retrofit	Non-residentia	Cooking	$ 5,746	$ -	198	A	15	$ **2.64**	$ 2.64	1		198	$ 5,746.00	198	ComRed1
70	BBQ / Rotisserie Oven	Cooking replacemer	Non-residentia	Cooking	$ 1,003	$ -	198	A	15	$ **0.46**	$ 0.46	1		198	$ 1,003.00	198	ComMTA
71	Boiler	Water heating repla	Non-residentia	DHW	$ 11,928	$ -	800	W	20	$ **1.11**	$ 1.11	3	3	2,400	$ 35,784.00	2,400	ComYel1
72	Boiler Tune-up	Space heating retro	Non-residentia	HVAC	$ 100	$ -	67	W	5	$ **0.34**	$ 0.34	5	5	333	$ 500.00	333	ComMTW
73	Cheesemelter	Cooking replacemer	Non-residentia	Cooking	$ 408	$ -	203	A	15	$ **0.18**	$ 0.18	1		203	$ 408.00	203	ComMTA
74	Cheesemelter (broiler)	Cooking retrofit	Non-residentia	Cooking	$ 3,937	$ -	203	A	15	$ **1.77**	$ 1.77	1		203	$ 3,937.00	203	ComRed1
75	Clothes Dryer	Miscellaneous retrof	Non-residentia	Appliances	$ 14,415	$ -	740	A	11	$ **2.25**	$ 2.25	1	22	740	$ 14,415.00	740	ComRed1
76	Clothes Dryer	Miscellaneous repla	Non-residentia	Appliances	$ 1,586	$ -	740	A	11	$ **0.25**	$ 0.25	1	2	740	$ 1,586.00	740	ComMTA
77	Clothes washer	Water heating retrof	Non-residentia	Appliances	$ 2,250	$ -	50	A	11	$ **5.19**	$ 5.19	1	1	50	$ 2,250.00	50	ComRed1
78	Clothes washer	Water heating repla	Non-residentia	Appliances	$ 900	$ 224	50	A	11	$ **1.56**	$ 2.07	1		50	$ 675.82	50	ComRed1
79	Coin-Op Clothers Dryer	Miscellaneous retrof	Non-residentia	Appliances	$ 5,573	$0	419	A	11	$ **1.53**	$ 1.53	4	16	1,676	$ 22,292.00	1,676	ComRed1
80	Coin-Op Clothers Dryer	Miscellaneous repla	Non-residentia	Appliances	$ 613	$ -	419	A	11	$ **0.17**	$ 0.17	4		1,676	$ 2,452.00	1,676	ComMTA
81	Coin-op clothes washer	Water heating retrof	Non-residentia	Appliances	$ 750	$ -	11	A	11	$ **7.86**	$ 7.86	4		44	$ 3,000.00	44	ComRed1
82	Coin-op clothes washer	Water heating repla	Non-residentia	Appliances	$ 300	$145	29	A	11	$ **0.61**	$ 1.19	4		116	$ 618.72	116	ComYel2
83	Combination Oven	Cooking retrofit	Non-residentia	Cooking	$ 5,717	$ 586	403	A	12	$ **1.37**	$ 1.53	2		806	$ 10,262.00	806	ComRed1
84	Combination Oven	Cooking replacemer	Non-residentia	Cooking	$ 5,717	$ 586	403	A	12	$ **1.37**	$ 1.53	2		806	$ 10,262.00	806	ComRed1
85	Condensing Boiler	Water heating repla	Non-residentia	DHW	$ 36,701	$ -	1,200	A	20	$ **2.29**	$ 2.29	2	4	2,400	$ 73,402.00	2,400	ComRed1
86	Condensing Storage Water Heater	Water heating repla	Non-residentia	DHW	$ 2,500	$ -	1,200	A	15	$ **0.19**	$ 0.19	3	5	3,600	$ 7,500.00	3,600	ComMTA
87	Condensing Tank Water Heater	Water heating retrof	Non-residentia	DHW	$ 7,800	$ -	1,200	A	15	$ **0.59**	$ 0.59	2	172	2,400	$ 15,600.00	2,400	ComYel3
88	Convection Oven	Cooking retrofit	Non-residentia	Cooking	$ 1,886	$ -	324	A	12	$ **0.63**	$ 0.63	5	6	1,620	$ 9,430.00	1,620	ComYel4
89	Convection Oven	Cooking replacemer	Non-residentia	Cooking	$ 1,886	$ -	324	A	12	$ **0.63**	$ 0.63	5		1,620	$ 9,430.00	1,620	ComYel5
90	Conveyer Broiler	Cooking retrofit	Non-residentia	Cooking	3674	$ -	661	A	15	$ **0.51**	$ 0.51	2		1,322	$ 7,348.00	1,322	ComYel6
91	Conveyer Broiler	Cooking replacemer	Non-residentia	Cooking	$ 1,182	$ -	661	A	15	$ **0.16**	$ 0.16	2		1,322	$ 2,364.00	1,322	ComMTA
92	Demand control ventilation	HVAC	Non-residentia	HVAC	0.8	$ -	0.3888	W	20	$ **0.15**	$ 0.15	7,500		2,916	$ 6,000.00	2,916	ComMTW
93	Energy recovery ventilation	HVAC	Non-residentia	HVAC	$ 4	$ -	0	W	20	$ **0.68**	$ 0.68	10,000		4,403	$ 40,000.00	4,403	ComYel7
94	Energy Star Steamer	Cooking retrofit	Non-residentia	Cooking	$ 3,733	$ 1,083	2,084	A	12	$ **0.14**	$ 0.19	3	1	6,252	$ 7,950.00	6,252	ComMTA
95	Energy Star Steamer	Cooking replacemer	Non-residentia	Cooking	$ 3,733	$ 1,083	2,084	A	12	$ **0.14**	$ 0.19	3		6,252	$ 7,950.00	6,252	ComMTA
96	Fryer	Cooking retrofit	Non-residentia	Cooking	$ 1,219	$ -	505	A	12	$ **0.26**	$ 0.26	5		2,525	$ 6,095.00	2,525	ComMTA
97	Fryer	Cooking replacemer	Non-residentia	Cooking	$ 1,219	$ -	505	A	12	$ **0.26**	$ 0.26	5		2,525	$ 6,095.00	2,525	ComMTA
98	Gas Pool Heater	Miscellaneous retrof	Non-residentia	Pool	$ 8,651	$ -	373	A	20	$ **1.73**	$ 1.73	1	1	373	$ 8,651.00	373	ComRed1
99	Gas Pool Heater	Miscellaneous repla	Non-residentia	Pool	$ 3,364	$ -	373	A	20	$ **0.67**	$ 0.67	1		373	$ 3,364.00	373	ComYel8
100	Gas Spa Heater	Miscellaneous retrof	Non-residentia	Pool	$ 1,377	$ -	13	A	20	$ **7.73**	$ 7.73	1		13	$ 1,377.00	13	ComRed1
101	Gas Spa Heater	Miscellaneous repla	Non-residentia	Pool	$ 344	$ -	13	A	20	$ **1.93**	$ 1.93	1		13	$ 344.00	13	ComRed1
102	Griddle	Cooking retrofit	Non-residentia	Cooking	$ 491	$ -	88	A	12	$ **0.60**	$ 0.60	2		176	$ 982.00	176	ComYel9
103	Griddle	Cooking replacemer	Non-residentia	Cooking	$ 491	$ -	88	A	12	$ **0.60**	$ 0.60	2		176	$ 982.00	176	ComYel10

Measure #	Measure	Original measure application	Market segment	Program bundle	Incremental TRC cost / unit	Non-Energy Benefits	First yr therm svgs / unit	Winter or Annual	Measure life	Levelized TRC cost / therm	Levelized TRC cost/therm w/o NEBs	New Acquirable Potential (units)	Technical Potential	Annual therm acquirable potential	Annual total (for whole pgm) cost less NEB credit	Achieveable Therms Entered into SENDOUT®	SENDOUT® Code
104	High efficiency charbroiler	Cooking retrofit	Non-residentia	Cooking	$ 9,029	$ -	298	A	15	$ 2.76	$ 2.76	2	2,604	596	$ 18,058.00	596	ComRed1
105	High efficiency charbroiler	Cooking replacemer	Non-residentia	Cooking	$ 1,313	$ -	298	A	15	$ 0.40	$ 0.40	2	17	596	$ 2,626.00	596	ComMTA
106	High efficiency condensing hot water heater	Cooking retrofit	Non-residentia	Cooking	2500	$ -	1200	A	15	$ 0.19	$ 0.19	3	172,945	3,600	$ 7,500.00	3,600	ComMTA
107	High efficiency condensing hot water heater	Cooking replacemer	Non-residentia	Cooking	$ 7,800	$ -	1,200	A	15	$ 0.59	$ 0.59	5	5,124	6,000	$ 39,000.00	6,000	ComYel11
108	High efficiency hot water heater	Cooking retrofit	Non-residentia	Cooking	$ 551	$ -	13	A	15	$ 3.86	$ 3.86	10		130	$ 5,510.00	130	ComRed1
109	High efficiency hot water heater	Cooking replacemer	Non-residentia	Cooking	$ 175	$ -	12	A	15	$ 1.33	$ 1.33	10		120	$ 1,750.00	120	ComRed1
110	Infrared Fryer Griddle	Cooking retrofit	Non-residentia	Cooking	$ 5,899	$ -	194	A	20	$ 2.27	$ 2.27	1	1,825	194	$ 5,899.00	194	ComRed1
111	Infrared Fryer Griddle	Cooking replacemer	Non-residentia	Cooking	$ 2,146	$ -	194	A	20	$ 0.83	$ 0.83	1	122	194	$ 2,146.00	194	ComYel12
112	Infrared General Purpose Fryer	Cooking retrofit	Non-residentia	Cooking	$ 5,889	$ -	300	A	15	$ 1.79	$ 1.79	1	7,356	300	$ 5,889.00	300	ComRed1
113	Infrared General Purpose Fryer	Cooking replacemer	Non-residentia	Cooking	$ 3,186	$ -	300	A	15	$ 0.97	$ 0.97	1	408	300	$ 3,186.00	300	ComYel13
114	Multi-tank conveyer dishwasher	Cooking retrofit	Non-residentia	Cooking	$ 4,000	$ -	993	A	15	$ 0.37	$ 0.37	1		993	$ 4,000.00	993	ComMTA
115	Multi-tank conveyer dishwasher	Cooking replacemer	Non-residentia	Cooking	$ 4,000	$ -	993	A	15	$ 0.37	$ 0.37	1		993	$ 4,000.00	993	ComMTA
116	Oven Conveyer	Cooking replacemer	Non-residentia	Cooking	$ 5,933	$ -	364	A	20	$ 1.22	$ 1.22	4	29	1,456	$ 23,732.00	1,456	ComRed1
117	Pizza / Deck Oven	Cooking replacemer	Non-residentia	Cooking	$ 466	$ -	256	A	20	$ 0.14	$ 0.14	1	64	256	$ 466.00	256	ComMTA
118	Point of Use hot water heater	Cooking retrofit	Non-residentia	Cooking	$ 1,118	$ -	18	A	15	$ 5.66	$ 5.66	1		18	$ 1,118.00	18	ComRed1
119	Point of Use hot water heater	Cooking replacemer	Non-residentia	Cooking	$ 371	$ -	17	A	15	$ 1.99	$ 1.99	1		17	$ 371.00	17	ComRed1
120	Pool blanket	Water heating repla	Non-residentia	Pool	$ 2,200	$ -	2,720	A	10	$ 0.10	$ 0.10	3	3,264	8,160	$ 6,600.00	8,160	ComMTA
121	Power Burner	Space heating retro	Non-residentia	HVAC	$ 913	$ -	134	W	12	$ 0.73	$ 0.73	2	538	269	$ 1,826.00	269	ComYel14
122	Programmable Thermostats	Space heating retro	Non-residentia	HVAC	$ 100	$ -	117	W	20	$ 0.06	$ 0.06	20		2,344	$ 2,000.00	2,344	ComMTW
123	Programmable Thermostats	Space heating repla	Non-residentia	HVAC	25	$ -	117.1802578	W	20	$ 0.02	$ 0.02	20		2,344	$ 500.00	2,344	ComMTW
124	Rack / Tray Oven	Cooking retrofit	Non-residentia	Cooking	$ 4,933	$ -	1,034	A	12	$ 0.51	$ 0.51	2	10,971	2,068	$ 9,866.00	2,068	ComYel15
125	Rack / Tray Oven	Cooking replacemer	Non-residentia	Cooking	$ 4,933	$ -	1,034	A	12	$ 0.51	$ 0.51	2	714	2,068	$ 9,866.00	2,068	ComYel16
126	Radiant heat	Space heating repla	Non-residentia	HVAC	$ 25	$ -	117	W	20	$ 0.02	$ 0.02	5		586	$ 125.00	586	ComMTW
127	Recirculation Controls	Water heating retrof	Non-residentia	DHW	$ 1,311	$ -	386	A	10	$ 0.42	$ 0.42	1	11,297	386	$ 1,311.00	386	ComMTA
128	Recirculation Controls	HVAC	Non-residentia	HVAC	$ 200	$ -	35	W	25	$ 0.37	$ 0.37	1		35	$ 200.00	35	ComMTW
129	Retro-Commissioning	Space heating retro	Non-residentia	HVAC	$ 3,000	$ -	2,000	W	7	$ 0.25	$ 0.25	5		10,000	$ 15,000.00	10,000	ComMTW
130	Roof insulation	Envelope retrofit	Non-residentia	Shell	$ 0	$ -	0	W	30	$ 0.11	$ 0.11	20	2,581	4	$ 8.00	4	ComMTW
131	Rooftop Maintenance	Space heating retro	Non-residentia	HVAC	$ 100	$ -	117	W	20	$ 0.06	$ 0.06	50		5,859	$ 5,000.00	5,859	ComMTW
132	Salamander	Cooking replacemer	Non-residentia	Cooking	$ 300	$ -	137	A	15	$ 0.20	$ 0.20	1	8	137	$ 300.00	137	ComMTA
133	Salamander (Broiler)	Cooking retrofit	Non-residentia	Cooking	$ 2,221	$ -	137	A	15	$ 1.48	$ 1.48	1	548	137	$ 2,221.00	137	ComRed1
134	Single tank conveyer dishwasher	Cooking retrofit	Non-residentia	Cooking	$ 3,000	$ -	508	A	15	$ 0.54	$ 0.54	2		1,016	$ 6,000.00	1,016	ComYel17
135	Single tank conveyer dishwasher	Cooking replacemer	Non-residentia	Cooking	$ 3,000	$ -	508	A	15	$ 0.54	$ 0.54	2		1,016	$ 6,000.00	1,016	ComYel18
136	Single tank door type dishwasher	Cooking retrofit	Non-residentia	Cooking	$ 2,000	$ -	554	A	15	$ 0.33	$ 0.33	2		1,108	$ 4,000.00	1,108	ComMTA
137	Single tank door type dishwasher	Cooking replacemer	Non-residentia	Cooking	$ 2,000	$ -	554	A	15	$ 0.33	$ 0.33	2		1,108	$ 4,000.00	1,108	ComMTA
138	Solar water	Water heating retrof	Non-residentia	DHW	$ 2,000	$ -	150	A	11	$ 1.54	$ 1.54	2		300	$ 4,000.00	300	ComRed1
139	Tankless Water Heater	Water heating repla	Non-residentia	DHW	$ 600	$ -	211	A	20	$ 0.21	$ 0.21	5	1,266	1,055	$ 3,000.00	1,055	ComMTA
140	Time clock control of hot water heater circulati	Cooking retrofit	Non-residentia	Cooking	$ 224	$ -	11	A	15	$ 1.85	$ 1.85	20		220	$ 4,480.00	220	ComRed1
141	Time clock control of hot water heater circulati	Cooking replacemer	Non-residentia	Cooking	$ 224	$ -	11	A	15	$ 1.85	$ 1.85	10		110	$ 2,240.00	110	ComRed1
142	Under counter dishwashers	Cooking retrofit	Non-residentia	Cooking	$ 1,000	$ -	217	A	15	$ 0.42	$ 0.42	2		434	$ 2,000.00	434	ComMTA
143	Under counter dishwashers	Cooking replacemer	Non-residentia	Cooking	$ 1,000	$ -	217	A	15	$ 0.42	$ 0.42	2		434	$ 2,000.00	434	ComMTA
144	Vent Damper	Space heating retro	Non-residentia	HVAC	$ 304	$ -	134	W	12	$ 0.24	$ 0.24	20	1,613	2,690	$ 6,080.00	2,690	ComMTW
145	Vent Hood Controls	Cooking retrofit	Non-residentia	Cooking	$ 2,160	$ -	293	A	15	$ 0.67	$ 0.67	5		1,465	$ 10,800.00	1,465	ComYel19
146	Vent Hood Controls	Cooking replacemer	Non-residentia	Cooking	$ 1,298	$ -	293	A	15	$ 0.40	$ 0.40	5		1,465	$ 6,490.00	1,465	ComMTA
147	Wall insulation	Envelope retrofit	Non-residentia	Shell	$ 0	$ -	0	W	30	$ 0.08	$ 0.08	10	1,199	3	$ 3.90	3	ComMTW
148	Warm Up Control	Space heating retro	Non-residentia	HVAC	$ 300	$ -	240	W	10	$ 0.16	$ 0.16	10	1,199	2,397	$ 3,000.00	2,397	ComMTW
149	Window retrofit	Envelope retrofit	Non-residentia	Shell	$ 30	$ -	2	W	30	$ 1.17	$ 1.17	5	599	8	$ 150.00	8	ComYel20
													3,529,552	326,413	$ 2,140,843.97	326,413	

Appendix 4.2 - WA/ID DSM Program Details

Measure #	Measure	Original measure application	Market segment	Program bundle	Incremental TRC cost / unit	Non-Energy Benefits	First yr therm svgs / unit	Winter or Annual	Measure life	Levelized TRC cost / therm	Levelized TRC cost/therm w/o NEBs	New Acquirable Potential (units)	Technical Potential	Annual therm acquirable potential	Annual total (for whole pgm) cost less NEB credit	Achieveable Therms Entered into SENDOUT®	SENDOUT® Code
1	Air sealing weatherstripping	SFH replacement	Residential	Shell	$ 200	$ -	76	W	15	$ 0.29	$ 0.29	561		38,202	$ 112,200.00	38,202	Res MTW
2	Air sealing weatherstripping	MFH replacement	Residential	Shell	$ 150	$ -	30	W	10	$ 0.71	$ 0.71	66		2,004	$ 9,900.00	2,004	ResYel1
3	Air sealing weatherstripping	MH retro	Residential	Shell	$ -	$ -	0	W	25	$ -	$ -	33	2,44	1		1	ResMTW
4	Attic insulation	MFH retro	Residential	Shell	$ 1	$ -	0	W	45	$ 2.84	$ 2.84	44	1,2	1	$ 61.60	1	ResRed1
5	Attic insulation	SFH retro	Residential	Shell	$ 666	$ -	59	W	45	$ 0.84	$ 0.84	561	50,6	33,099	$ 373,626.00	33,099	ResYel2
6	Blow-in insulation for roof	MH retro	Residential	Shell	$ 1	$ -	0	W	25	$ 1.73	$ 1.73	33		1		1	ResRed1
7	Boiler tune-up	MFH retro	Residential	HVAC	$ 100	$ -	27	W	5	$ 0.92	$ 0.92	22	34,3	586	$ 2,200.00	586	Res Yel3
8	Combo boiler	SFH retro	Residential	DHW	$ 3,850	$ -	180	A	20	$ 2.03	$ 2.03	37	1,484,2	6,032		6,032	ResRed2
9	Combo boiler (air)	MFH retro	Residential	DHW	$ 3,850	$ -	180	A	20	$ 2.03	$ 2.03	22	171,1	3,548		3,548	ResRed2
10	Combo boiler (air)	New SFH	Residential	DHW	$ 2,700	$ -	71	A	20	$ 3.61	$ 3.61	40	33,2	2,519		2,519	ResRed2
11	Combo boiler (hydronic)	New SFH	Residential	DHW	$ 2,200	$ -	71	A	20	$ 2.94	$ 2.94	8	33,2	504		504	ResRed2
12	Condensing boiler	MFH replacement	Residential	HVAC	$ 570	$ -	80	W	20	$ 0.68	$ 0.68	40	1,8	3,164	$ 22,572.00	3,164	ResYel4
13	Condensing boiler	New MFH	Residential	HVAC	$ 570	$ -	80	W	20	$ 0.68	$ 0.68	8	4,6	633	$ 4,514.40	633	ResYel5
14	Condensing boiler	MFH replacement	Residential	DHW	$ 570	$ -	80	W	20	$ 0.68	$ 0.68	40	1,8	3,164	$ 22,572.00	3,164	ResYel6
15	Condensing boiler	New MFH	Residential	DHW	$ 570	$ -	80	W	20	$ 0.68	$ 0.68	8	2,2	633	$ 4,514.40	633	ResYel7
16	Direct vent gas unit heater	SFH retro	Residential	HVAC	$ 1,560	$ -	127	W	20	$ 1.17	$ 1.17	9	72,0	1,183	$ 14,586.00	1,183	ResYel8
17	Direct vent gas unit heater	MFH retro	Residential	HVAC	$ 1,395	$ -	109	W	20	$ 1.21	$ 1.21	52		5,112		5,112	ResRed1
18	Distribution controls	MFH retro	Residential	DHW	$ 150	$ -	8	W	15	$ 2.07	$ 2.07	22		158		158	ResRed1
19	Duct commissioning	New SFH	Residential	HVAC	$ 300	$ -	60	W	20	$ 0.48	$ 0.48	17	21,8	904		904	ResMTW
20	Duct insulation retrofit	SFH retro	Residential	HVAC	$ 459	$ -	93	W	20	$ 0.47	$ 0.47	1,987	70,8	165,939	$ 911,975.63	165,939	ResMTW
21	Duct insulation retrofit	MFH retro	Residential	HVAC	$ 275	$ -	47	W	20	$ 0.56	$ 0.56	11	5,7	459	$ 3,025.00	459	ResMTW
22	Duct sealing	SFH retro	Residential	HVAC	$ 500	$ -	125	W	20	$ 0.38	$ 0.38	1,987	884,9	222,595	$ 993,437.50	222,595	ResMTW
23	Duct sealing	MFH retro	Residential	HVAC	$ 300	$ -	63	W	20	$ 0.46	$ 0.46	11	24,7	617	$ 3,300.00	617	ResMTW
24	Duct sealing	MH retro	Residential	HVAC	$ 200	$ -	75	W	20	$ 0.25	$ 0.25	69	24,1	4,620		4,620	ResMTW
25	Energy Star Clothes Washers	SFH	Residential	Appliances	$ 70	$ 63	17	A	13	$ 0.05	$ 0.49	3,109		47,354		47,354	ResMTA
26	Energy Star Dishwasher	SFH retro	Residential	Appliances	$ 50	$ 37	5	A	13	$ 0.31	$ 1.20	3,740		16,755		16,755	ResMTA
27	Energy Star Dishwasher	MFH retro	Residential	Appliances	$ 50	$ 37	5	A	13	$ 0.31	$ 1.20	110		493		493	ResMTA
28	Energy Star Dishwasher	MH retro	Residential	Appliances	$ 50	$ 37	5	A	13	$ 0.31	$ 1.20	103		462		462	ResMTA
29	Energy Star Windows	MFH retro	Residential	Shell	$ 392	$ -	68	W	45	$ 0.43	$ 0.43	110	12,8	6,693	$ 43,120.00	6,693	ResMTW
30	Energy Star Windows	SFH retro	Residential	Shell	$ 500	$ -	89	W	45	$ 0.42	$ 0.42	3,740	202,4	296,738	$ 1,870,000.00	296,738	ResMTW
31	Exterior doors	New SFH	Residential	Shell	$ 100	$ -	7	W	30	$ 1.22	$ 1.22	126		753		753	ResRed1
32	Exterior doors	New MFH	Residential	Shell	$ 100	$ -	7	W	30	$ 1.22	$ 1.22	10		59		59	ResRed1
33	Exterior doors	SFH retro	Residential	Shell	$ 500	$ -	7	W	30	$ 6.10	$ 6.10	351		2,092		2,092	ResRed1
34	Exterior doors	MFH retro	Residential	Shell	$ 500	$ -	7	W	30	$ 6.10	$ 6.10	18		109		109	ResRed1
35	Faucet aerators (2)	SFH retro	Residential	DHW	$ 12	$ -	6	A	10	$ 0.29	$ 0.29	4,675		25,133		25,133	ResMTA
36	Faucet aerators (2)	MFH retro	Residential	DHW	$ 12	$ -	6	A	10	$ 0.29	$ 0.29	550		2,957		2,957	ResMTA
37	Faucet aerators (2)	MH retro	Residential	DHW	$ 12	$ -	6	A	10	$ 0.29	$ 0.29	275		1,478		1,478	ResMTA
38	Fireplace dampers	SFH retro	Residential	Shell	$ 200	$ -	76	W	15	$ 0.29	$ 0.29	733		49,937	$ 146,666.67	49,937	ResMTW
39	Floor insulation	MFH retro	Residential	Shell	$ 1,200	$ -	45	W	45	$ 1.97	$ 1.97	4	2,1	178	$ 5,280.00	178	ResRed1
40	Floor insulation	SFH retro	Residential	Shell	$ 1,244	$ -	128	W	45	$ 0.72	$ 0.72	9	122,6	1,200	$ 11,631.40	1,200	ResYel9
41	Furnace retrofit	SFH retro	Residential	HVAC	$ 2,300	$ -	180	W	20	$ 1.21	$ 1.21	2,945		475,444		475,444	ResRed1
42	Furnace retrofit	MFH retro	Residential	HVAC	$ 1,900	$ -	76	W	20	$ 2.38	$ 2.38	11		748		748	ResRed1
43	Furnace tune-up	MH retro	Residential	HVAC	$ 200	$ -	10	W	3	$ 7.63	$ 7.63	69		616		616	ResRed1
44	Gas Pool Heater	New SFH	Residential	HVAC	$ 3,364	$ -	373	W	20	$ 0.86	$ 0.86	1	131,1	373	$ 3,364.00	373	ResYel10
45	Gas Pool Heater	SFH replacement	Residential	HVAC	$ 3,364	$ -	373	W	20	$ 0.86	$ 0.86	70	9,2	26,146	$ 235,900.50	26,146	ResYel11
46	Gas Pool Heater	New MFH	Residential	HVAC	$ 3,364	$ -	373	W	20	$ 0.86	$ 0.86	100		37,285	$ 336,400.00	37,285	ResYel12
47	Gas Pool Heater	MFH replacement	Residential	HVAC	$ 3,364	$ -	373	W	20	$ 0.86	$ 0.86	1	1	246	$ 2,220.24	246	ResYel13
48	Gas Pool Heater	SFH retro	Residential	HVAC	$ 8,651	$ -	373	W	20	$ 2.20	$ 2.20	84	15,7	28,112		28,112	ResRed1
49	Gas Pool Heater	MFH retro	Residential	HVAC	$ 8,651	$ -	373	W	20	$ 2.20	$ 2.20	1	15,7	220		220	ResRed1
50	Heating System Maintenance (filter/tune-up)	SFH	Residential	HVAC	$ 200	$ -	50	W	2	$ 2.21	$ 2.21	1,403		62,832		62,832	ResRed1
51	High efficiency boiler	New SFH	Residential	HVAC	$ 1,000	$ -	40	W	20	$ 2.37	$ 2.37	842		30,159	$ 841,500.00	30,159	ResRed1
52	High efficiency boiler	MFH replacement	Residential	DHW	$ 5,000	$ -	40	W	20	$ 11.89	$ 11.89	2	6	79	$ 11,000.00	79	ResRed1
53	High efficiency furnace	SFH replacement	Residential	HVAC	$ 800	$ -	120	W	20	$ 0.63	$ 0.63	140	22,9	16,808	$ 112,200.00	16,808	ResYel14
54	High efficiency furnace	New SFH	Residential	HVAC	$ 800	$ -	72	W	20	$ 1.06	$ 1.06	1,683	51,8	121,176	$ 1,346,400.00	121,176	ResYel15
55	High efficiency furnace	MFH replacement	Residential	HVAC	$ 800	$ -	61	W	20	$ 1.24	$ 1.24	6	1,1	302	$ 4,400.00	302	ResRed1
56	High Efficiency furnace	New MFH	Residential	HVAC	$ 800	$ -	61	W	20	$ 1.25	$ 1.25	50		2,705	$ 39,600.00	2,705	ResRed1
57	High efficiency water heater (tanked)	SFH replacement	Residential	DHW	$ 60	$ -	20	A	12	$ 0.38	$ 0.38	1,683		30,159	$ 100,980.00	30,159	ResMTA
58	High efficiency water heater (tanked)	MFH replacement	Residential	DHW	$ 60	$ -	20	A	12	$ 0.38	$ 0.38	3		49	$ 165.00	49	ResMTA
59	High efficiency water heater (tanked)	New SFH	Residential	DHW	$ 60	$ -	20	A	12	$ 0.38	$ 0.38	1,346		24,127	$ 80,784.00	24,127	ResMTA
60	High efficiency water heater (tanked)	New MFH	Residential	DHW	$ 60	$ -	20	A	12	$ 0.38	$ 0.38	158		2,839	$ 9,504.00	2,839	ResMTA
61	High efficiency water heater (tanked)	MFH retro	Residential	DHW	$ 260	$ -	20	A	12	$ 1.64	$ 1.64	1,683		30,159	$ 437,580.00	30,159	ResRed2
62	High efficiency water heater (tanked)	SFH retro	Residential	DHW	$ 260	$ -	20	A	12	$ 1.64	$ 1.64	3		49	$ 715.00	49	ResRed2
63	High efficiency water heater (tanked)-65 gal	MH	Residential	DHW	$ 95	$ -	7	A	25	$ 1.17	$ 1.17	48		337	$ 4,571.88	337	ResRed2
64	High efficiency water heater (tanked)-80 gal	MH retro	Residential	DHW	$ 100	$ -	7	A	25	$ 1.18	$ 1.18	48		351	$ 4,812.50	351	ResRed2

Measure #	Measure	Original measure application	Market segment	Program bundle	Incremental TRC cost / unit	Non-Energy Benefits	First yr therm svgs / unit	Winter or Annual	Measure life	Levelized TRC cost / therm	Levelized TRC cost/therm w/o NEBs	New Acquirable Potential (units)	Technical Potential	Annual therm acquirable potential	Annual total (for whole pgm) cost less NEB credit	Achieveable Therms Entered into SENDOUT®	SENDOUT® Code
65	Horizontal axis clothes washer	New SFH	Residential	Appliances	$ 70	$53	17	A	13	$ 0.12	$ 0.49	505	12,2	7,691	$ 8,735.63	7,691	ResMTA
66	Horizontal axis clothes washer	SFH retro	Residential	Appliances	$ 70	$63	17	A	13	$ 0.05	$ 0.49	1,332	274,8	20,295	$ 9,326.63	20,295	ResMTA
67	Installing storm windows	MH	Residential	Shell	$ 15	$ -	1	W	25	$ 0.90	$ 0.90	220		308	$ 3,196.60	308	ResYel16
68	Low flow showerheads	SFH retro	Residential	DHW	$ 2	$ 2	6	A	4	$ 0.02	$ 0.12	1,870		10,053	$ 748.00	10,053	ResMTA
69	Low flow showerheads	MFH retro	Residential	DHW	$ 2	$ 2	6	A	4	$ 0.02	$ 0.12	1,403		7,540	$ 561.00	7,540	ResMTA
70	Low flow showerheads	MH retro	Residential	DHW	$ 2	$ 2	6	A	4	$ 0.02	$ 0.12	1,403		7,540	$ 561.00	7,540	ResMTA
71	Passive solar water heating	SFH retro	Residential	DHW	$ 2,000	$ -	150	A	15	$ 1.47	$ 1.47	2	2,143,9	269	$ 4,000.00	269	ResRed2
72	Passive solar water heating	New SFH	Residential	DHW	$ 2,000	$ -	150	A	15	$ 1.47	$ 1.47	5		672	$ 10,000.00	672	ResRed2
73	Pipe insulation	SFH retro	Residential	DHW	$ 121	$ -	10	A	15	$ 1.34	$ 1.34	94	153,7	838	$ 11,313.50	838	ResRed2
74	Pipe insulation/wrap - long wrap (min 15ft)	MH retro	Residential	DHW	$ 15	$ -	2	A	15	$ 0.75	$ 0.75	10		23	$ 154.69	23	ResYel17
75	Pipe insulation/wrap - short wrap (min 3ft)	MH retro	Residential	DHW	$ 5	$ -	1	A	15	$ 0.69	$ 0.69	10		8	$ 51.56	8	ResYel18
76	Pool blanket	New SFH	Residential	DHW	$ 1,100	$ -	1,360	A	10	$ 0.12	$ 0.12	1	1,274,1	1,219	$ 1,100.00	1,219	ResMTA
77	Pool blanket	New MFH	Residential	DHW	$ 25	$ -	41	A	20	$ 0.06	$ 0.06	20		740	$ 500.00	740	ResMTA
78	Power burner	MFH retro	Residential	HVAC	$ 180	$ -	27	W	12	$ 0.85	$ 0.85	6		146	$ 990.00	146	ResYel19
79	Tankless water heater	SFH replacement	Residential	DHW	$ 800	$ -	82	A	20	$ 0.93	$ 0.93	84	56,3	6,900	$ 67,320.00	6,900	ResYel20
80	Tankless water heater	MFH replacement	Residential	DHW	$ 800	$ -	82	A	20	$ 0.93	$ 0.93	1	6,4	90	$ 880.00	90	ResYel21
81	Tankless water heater	SFH retro	Residential	DHW	$ 800	$ -	82	A	20	$ 0.93	$ 0.93	9	676,1	767	$ 7,480.00	767	ResYel22
82	Tankless water heater	MFH retro	Residential	DHW	$ 800	$ -	82	A	20	$ 0.93	$ 0.93	1	77,9	90	$ 880.00	90	ResYel23
83	Tankless water heater	SFH	Residential	DHW	$ 700	$ -	102	A	15	$ 0.76	$ 0.76	168	901,6	17,167	$ 117,810.00	17,167	ResYel24
84	Thermal Vent Damper	MFH retro	Residential	HVAC	$ 60	$ -	27	W	12	$ 0.28	$ 0.28	990	14,2	23,624	$ 59,400.00	23,624	ResMTW
85	Wall insulation	SFH retro	Residential	Shell	$ 2	$ -	0	W	45	$ 0.23	$ 0.23	2,244,000	67,1	989,126	$ 3,366,000.00	989,126	ResMTW
86	Walls insulation	MFH retro	Residential	Shell	$ 1	$ -	0	W	45	$ 1.39	$ 1.39	2,750		132	$ 2,750.00	132	ResRed1
87	Zone and Loop Controls	MFH retro	Residential	HVAC	$ 630	$ -	63	W	15	$ 1.11	$ 1.11	47		2,926	$ 29,452.50	2,926	ResYel25
88	BBQ / Rotisserie Oven	Cooking replacem	Non-residenti	Cooking	$ 1,003	$ -	198	A	15	$ 0.56	$ 0.56	1	3	198	$ 1,003.00	198	ComYel1
89	Boiler	Water heating repl	Non-residenti	DHW	$ 11,928	$ -	800	W	20	$ 1.42	$ 1.42	50	7,1	4,120	$ 596,400.00	4,120	ComRed2
90	Boiler Tune-up	Space heating retr	Non-residenti	HVAC	$ 100	$ -	67	W	5	$ 0.37	$ 0.37	10	10,4	69	$ 1,000.00	69	ComMTW
91	Clothes washer	Water heating retr	Non-residenti	Appliances	$ 2,250	$ -	50	A	11	$ 6.02	$ 6.02	2	4,6	10	$ 4,500.00	10	ComRed1
92	Clothes washer	Water heating repl	Non-residenti	Appliances	$ 900	$193	50	A	11	$ 1.89	$ 2.41	5	4	26	$ 3,535.07	26	ComRed1
93	Coin-Op Clothers Dryer	Miscellaneous retr	Non-residenti	Appliances	$ 5,573	$ -	419	A	11	$ 1.78	$ 1.78	2	21,7	86	$ 11,146.00	86	ComRed1
94	Coin-Op Clothers Dryer	Miscellaneous repl	Non-residenti	Appliances	$ 613	$ -	419	A	11	$ 0.20	$ 0.20	2	1,9	86	$ 1,226.00	86	ComMTA
95	Coin-op clothes washer	Water heating retr	Non-residenti	Appliances	$ 750	$ -	11	A	11	$ 9.13	$ 9.13	5	1,8	6	$ 3,750.00	6	ComRed1
96	Coin-op clothes washer	Water heating repl	Non-residenti	Appliances	$ 300	$125	29	A	11	$ 0.81	$ 1.39	10	1	290	$ 1,748.99	290	ComYel2
97	Combination Oven	Cooking retrofit	Non-residenti	Cooking	$ 17,018	$ -	164	A	15	$ 11.45	$ 11.45	2	2,1	34	$ 34,036.00	34	ComRed1
98	Combination Oven	Cooking replacem	Non-residenti	Cooking	$ 1,667	$ -	164	A	15	$ 1.12	$ 1.12	7	9	1,148	$ 11,669.00	1,148	ComRed1
99	Condensing Boiler	Water heating repl	Non-residenti	DHW	$ 36,701	$ -	1,200	A	20	$ 2.90	$ 2.90	5	14,0	618	$ 183,505.00	618	ComRed1
100	Condensing Storage Water Heater	Water heating repl	Non-residenti	DHW	$ 848	$ -	308	A	15	$ 0.30	$ 0.30	10	15,3	317	$ 8,480.00	317	ComMTA
101	Condensing Tank Water Heater	Water heating retr	Non-residenti	DHW	$ 3,855	$ -	771	A	15	$ 0.55	$ 0.55	8	518,6	6,168	$ 30,840.00	6,168	ComYel3
102	Convection Oven	Cooking retrofit	Non-residenti	Cooking	$ 5,762	$ -	324	A	20	$ 1.69	$ 1.69	2	26,7	67	$ 11,524.00	67	ComRed1
103	Convection Oven	Cooking replacem	Non-residenti	Cooking	$ 2,696	$ -	324	A	20	$ 0.79	$ 0.79	5	1,7	1,620	$ 13,480.00	1,620	ComYel4
104	Conveyer Broiler	Cooking retrofit	Non-residenti	Cooking	$ 3,674	$ -	661	A	15	$ 0.61	$ 0.61	1	9	661	$ 3,674.00	661	ComYel5
105	Conveyer Broiler	Cooking replacem	Non-residenti	Cooking	$ 1,182	$ -	661	A	15	$ 0.20	$ 0.20	2		136	$ 2,364.00	136	ComMTA
106	Demand control ventilation	HVAC	Non-residenti	HVAC	0.8	$ -	0.3888	W	20	$ 0.20	$ 0.20	15		1	$ 12.00	1	ComMTW
107	Energy recovery ventilation	HVAC	Non-residenti	HVAC	4	$ -	0.4403	W	20	$ 0.86	$ 0.86	2,500		1,101	$ 10,000.00	1,101	ComYel6
108	Energy Star Steamer	Cooking retrofit	Non-residenti	Cooking	$ 970	$ -	643	A	20	$ 0.14	$ 0.14	20	5,0	1,325	$ 19,400.00	1,325	ComMTA
109	Energy Star Steamer	Cooking replacem	Non-residenti	Cooking	$ 111	$ -	643	A	20	$ 0.02	$ 0.02	20	3	1,325	$ 2,220.00	1,325	ComMTA
110	Fryer	Cooking retrofit	Non-residenti	Cooking	$ 3,500	$ -	445	A	15	$ 0.87	$ 0.87	2		890	$ 7,000.00	890	ComYel7
111	Fryer	Cooking replacem	Non-residenti	Cooking	$ 1,219	$ -	404	A	15	$ 0.33	$ 0.33	6		250	$ 7,314.00	250	ComMTA
112	Gas Pool Heater	Miscellaneous retr	Non-residenti	Pool	$ 8,651	$ -	373	A	20	$ 2.20	$ 2.20	2	5,2	77	$ 17,302.00	77	ComRed1
113	Gas Spa Heater	Miscellaneous retr	Non-residenti	Pool	$ 1,377	$ -	13	A	20	$ 9.82	$ 9.82	2	1	3	$ 2,754.00	3	ComRed1
114	Griddle	Cooking retrofit	Non-residenti	Cooking	$ 1,500	$ -	81	A	15	$ 2.04	$ 2.04	2		17	$ 3,000.00	17	ComRed1
115	Griddle	Cooking replacem	Non-residenti	Cooking	$ 491	$ -	75	A	15	$ 0.72	$ 0.72	4		300	$ 1,964.00	300	ComYel8
116	High efficiency charbroiler	Cooking replacem	Non-residenti	Cooking	$ 1,313	$ -	298	A	15	$ 0.49	$ 0.49	2	2	61	$ 2,626.00	61	ComMTA
117	High efficiency condensing hot water heater	Cooking retrofit	Non-residenti	Cooking	$ 4,153	$ -	483	A	15	$ 0.95	$ 0.95	5	518,6	2,415	$ 20,765.00	2,415	ComYel9
118	High efficiency condensing hot water heater	Cooking replacem	Non-residenti	Cooking	$ 2,266	$ -	218	A	15	$ 1.15	$ 1.15	5	15,5	1,090	$ 11,330.00	1,090	ComRed1
119	High efficiency hot water heater	Cooking retrofit	Non-residenti	Cooking	$ 551	$ -	13	A	15	$ 4.68	$ 4.68	5		7	$ 2,755.00	7	ComRed1
120	High efficiency hot water heater	Cooking replacem	Non-residenti	Cooking	$ 175	$ -	12	A	15	$ 1.61	$ 1.61	5		6	$ 875.00	6	ComRed1
121	Multi-tank conveyer dishwasher	Cooking retrofit	Non-residenti	Cooking	$ 24,000	$ -	1,092	A	15	$ 2.43	$ 2.43	2		225	$ 48,000.00	225	ComRed1
122	Multi-tank conveyer dishwasher	Cooking replacem	Non-residenti	Cooking	$ 4,000	$ -	993	A	15	$ 0.44	$ 0.44	4		409	$ 16,000.00	409	ComMTA
123	Occupancy sensors for PTAC units	HVAC	Non-residenti	HVAC	200	$ -	34.13	W	20	$ 0.56	$ 0.56	200		703	$ 40,000.00	703	ComMTW
124	Pizza / Deck Oven	Cooking retrofit	Non-residenti	Cooking	$ 8,007	$ -	256	A	20	$ 2.97	$ 2.97	1		26	$ 8,007.00	26	ComRed1
125	Pizza / Deck Oven	Cooking replacem	Non-residenti	Cooking	$ 466	$ -	256	A	20	$ 0.17	$ 0.17	2	8	53	$ 932.00	53	ComMTA
126	Point of Use hot water heater	Cooking retrofit	Non-residenti	Cooking	$ 1,118	$ -	18	A	15	$ 6.85	$ 6.85	2		4	$ 2,236.00	4	ComRed1
127	Point of Use hot water heater	Cooking replacem	Non-residenti	Cooking	$ 371	$ -	17	A	15	$ 2.41	$ 2.41	2		4	$ 742.00	4	ComRed1
128	Pool blanket	Water heating repl	Non-residenti	Pool	$ 2,200	$ -	2,720	A	10	$ 0.12	$ 0.12	5	9	1,401	$ 11,000.00	1,401	ComMTA
129	Programmable Thermostats	Space heating retr	Non-residenti	HVAC	$ 100	$ -	117	W	20	$ 0.08	$ 0.08	10		121	$ 1,000.00	121	ComMTW

Measure #	Measure	Original measure application	Market segment	Program bundle	Incremental TRC cost / unit	Non-Energy Benefits	First yr therm svgs / unit	Winter or Annual	Measure life	**Levelized TRC cost / therm**	Levelized TRC cost/therm w/o NEBs	New Acquirable Potential (units)	Technical Potential	Annual therm acquirable potential	Annual total (for whole pgm) cost less NEB credit	Achieveable Therms Entered into SENDOUT®	SENDOUT® Code
130	Rack / Tray Oven	Cooking replaceme	Non-residenti	Cooking	$ 9,709	$ -	1,013	A	20	**$ 0.91**	$ 0.91			3,039	$ 29,127.00	3,039	ComYel10
131	Radiant heat	Space heating repl	Non-residenti	HVAC	$ 25	$ -	117	W	20	**$ 0.02**	$ 0.02			72	$ 150.00	72	ComMTW
132	Recirculation Controls	Water heating retrc	Non-residenti	DHW	$ 1,311	$ -	386	A	10	**$ 0.49**	$ 0.49			318	$ 10,488.00	318	ComMTA
133	Retro-Commissioning	Space heating retrc	Non-residenti	HVAC	3000	$ -	2000	W	7	**$ 0.28**	$ 0.28			1,030	$ 15,000.00	1,030	ComMTW
134	Roof insulation	Envelope retrofit	Non-residenti	Shell	$ 0	$ -	0	W	30	**$ 0.15**	$ 0.15			1	$ 12.00	1	ComMTW
135	Rooftop Maintenance	Space heating retrc	Non-residenti	HVAC	$ 100	$ -	117	W	20	**$ 0.08**	$ 0.08			241	$ 2,000.00	241	ComMTW
136	Salamander	Cooking replaceme	Non-residenti	Cooking	$ 300	$ -	137	A	15	**$ 0.24**	$ 0.24			212	$ 4,500.00	212	ComMTA
137	Salamander (Broiler)	Cooking retrofit	Non-residenti	Cooking	$ 2,221	$ -	137	A	15	**$ 1.79**	$ 1.79			212	$ 33,315.00	212	ComRed1
138	Single tank conveyer dishwasher	Cooking retrofit	Non-residenti	Cooking	$ 7,000	$ -	559	A	15	**$ 1.38**	$ 1.38			288	$ 35,000.00	288	ComRed1
139	Single tank conveyer dishwasher	Cooking replaceme	Non-residenti	Cooking	$ 2,000	$ -	509	A	15	**$ 0.43**	$ 0.43			524	$ 20,000.00	524	ComMTA
140	Single tank door type dishwasher	Cooking retrofit	Non-residenti	Cooking	$ 6,000	$ -	669	A	15	**$ 0.99**	$ 0.99			3,345	$ 30,000.00	3,345	ComYel11
141	Single tank door type dishwasher	Cooking replaceme	Non-residenti	Cooking	$ 2,000	$ -	608	A	15	**$ 0.36**	$ 0.36			626	$ 20,000.00	626	ComMTA
142	Solar water	Water heating retrc	Non-residenti	DHW	$ 2,000	$ -	150	A	11	**$ 1.79**	$ 1.79			15	$ 2,000.00	15	ComRed1
143	Tankless Water Heater	Water heating repl	Non-residenti	DHW	$ 600	$ -	211	A	20	**$ 0.27**	$ 0.27			543	$ 15,000.00	543	ComMTA
144	Time clock control of hot water heater circulating pu	Cooking retrofit	Non-residenti	Cooking	$ 224	$ -	11	A	15	**$ 2.25**	$ 2.25			1	$ 224.00	1	ComRed1
145	Time clock control of hot water heater circulating pu	Cooking replaceme	Non-residenti	Cooking	$ 224	$ -	11	A	15	**$ 2.25**	$ 2.25			1	$ 224.00	1	ComRed1
146	Under counter dishwashers	Cooking retrofit	Non-residenti	Cooking	$ 6,000	$ -	358	A	15	**$ 1.85**	$ 1.85			184	$ 30,000.00	184	ComRed1
147	Under counter dishwashers	Cooking replaceme	Non-residenti	Cooking	$ 1,000	$ -	326	A	15	**$ 0.34**	$ 0.34			336	$ 10,000.00	336	ComMTA
148	Vent Damper	Space heating retrc	Non-residenti	HVAC	$ 304	$ -	134	W	12	**$ 0.29**	$ 0.29			139	$ 3,040.00	139	ComMTW
149	Vent Hood Controls	Cooking retrofit	Non-residenti	Cooking	$ 2,160	$ -	293	A	15	**$ 0.81**	$ 0.81			1,465	$ 10,800.00	1,465	ComYel12
150	Vent Hood Controls	Cooking replaceme	Non-residenti	Cooking	$ 1,298	$ -	293	A	15	**$ 0.49**	$ 0.49			151	$ 6,490.00	151	ComMTA
151	Wall insulation	Envelope retrofit	Non-residenti	Shell	$ 0	$ -	0	W	30	**$ 0.11**	$ 0.11			15,087	$ 195,000.00	15,087	ComMTW
152	Warm Up Control	Space heating retrc	Non-residenti	HVAC	$ 300	$ -	240	W	10	**$ 0.18**	$ 0.18			1,234	$ 15,000.00	1,234	ComMTW
153	Window retrofit	Envelope retrofit	Non-residenti	Shell	$ 30	$ -	2	W	30	**$ 1.61**	$ 1.61			23,453	$ 4,500,000.00	23,453	ComRed2
													10,387,595	3,016,057	$ 5,153,638.00	3,016,057	

APPENDIX 4.3

SENDOUT® SELECTED CONSERVATION MEASURES

Appendix 4.3 - SENDOUT® Selected Measures (Expected Case) in Dth

DSM Program	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
KlaComRed2	227.31	454.62	683.79	909.23	1,136.54	1,363.85	1,595.52	1,818.47	2,045.78	2,273.09
KlaComYel10	2.60	5.20	7.81	10.39	12.99	15.59	18.23	20.78	23.38	25.98
KlaComYel11	88.55	177.11	266.39	354.21	442.77	531.32	621.57	708.43	796.98	885.53
KlaComYel12	2.86	5.73	8.61	11.45	14.32	17.18	20.10	22.91	25.77	28.63
KlaComYel13	4.43	8.86	13.32	17.71	22.14	26.57	31.08	35.42	39.85	44.28
KlaComYel14	5.50	11.01	16.59	22.05	27.27	32.63	37.92	43.20	48.42	53.51
KlaComYel15	30.52	61.04	91.82	122.09	152.61	183.13	214.24	244.17	274.69	305.21
KlaComYel16	30.52	61.04	91.82	122.09	152.61	183.13	214.24	244.17	274.69	305.21
KlaComYel17	15.00	29.99	45.11	59.98	74.98	89.97	105.25	119.96	134.96	149.95
KlaComYel18	15.00	29.99	45.11	59.98	74.98	89.97	105.25	119.96	134.96	149.95
KlaComYel19	21.62	43.24	65.04	86.49	108.11	129.73	151.77	172.97	194.60	216.22
KlaComYel20	-	-	-	0.11	0.37	0.66	0.76	0.98	1.10	1.32
KlaComYel9	2.60	5.20	7.81	10.39	12.99	15.59	18.23	20.78	23.38	25.98
KlamComMTA	953.49	1,906.99	2,868.32	3,813.98	4,767.47	5,720.97	6,692.75	7,627.96	8,581.45	9,534.94
KlamComMTW	611.45	1,222.89	1,830.23	2,419.50	2,991.98	3,579.42	4,160.66	4,738.98	5,312.46	5,870.80
KlamComYel1	49.73	99.46	148.85	196.77	243.33	291.11	338.38	385.41	432.06	477.46
KlamComYel2	1.71	3.42	5.15	6.85	8.56	10.27	12.02	13.70	15.41	17.12
KlamComYel3	35.42	70.84	106.56	141.69	177.11	212.53	248.63	283.37	318.79	354.21
KlamComYel4	23.91	47.82	71.92	95.64	119.55	143.46	167.82	191.28	215.18	239.09
KlamComYel5	23.91	47.82	71.92	95.64	119.55	143.46	167.82	191.28	215.18	239.09
KlamComYel6	19.51	39.02	58.69	78.05	97.56	117.07	136.95	156.09	175.60	195.11
KlamComYel7	91.23	182.46	273.08	361.00	446.42	534.06	620.79	707.08	792.64	875.95
KlamComYel8	5.50	11.01	16.55	22.01	27.51	33.02	38.63	44.02	49.53	55.03
KlamResMTA	211.52	423.03	636.29	846.07	1,057.58	1,269.10	1,484.68	1,692.14	1,903.65	2,115.17
KlamResMTW	1,742.00	3,484.00	5,214.30	6,893.12	8,524.10	10,197.72	11,853.66	13,501.28	15,135.12	16,725.80
KlamResYel1	37.78	75.57	113.10	149.51	184.89	221.19	257.11	292.85	328.28	362.79
KlamResYel2	5.27	10.53	15.88	21.11	26.10	31.23	36.30	41.34	46.35	51.22
KlaResRed1	666.30	1,332.61	1,994.44	1,977.43	1,956.25	1,950.28	1,943.12	1,936.56	1,929.70	1,919.26
KlaResRed2	291.16	582.32	875.88	1,164.65	1,455.81	1,746.97	2,043.71	2,329.29	2,620.45	2,911.61
KlaResYel10	4.31	8.62	12.91	17.19	21.37	25.57	29.72	33.85	37.94	41.93
KlaResYel11	530.17	1,060.34	1,586.95	2,097.90	2,594.28	3,103.64	3,607.62	4,109.06	4,606.32	5,090.43
KlaResYel12	412.36	824.71	1,234.30	1,631.70	2,017.77	2,413.94	2,805.92	3,195.94	3,582.69	3,959.23
KlaResYel13	3.24	6.84	10.24	13.54	16.86	20.29	23.58	26.86	30.11	33.27
KlaResYel14	-	-	-	-	-	-	-	-	1.31	1.45
KlaResYel16	111.37	222.74	335.03	445.48	556.85	668.22	781.73	890.97	1,002.34	1,113.71
KlaResYel17	-	1.17	1.90	2.53	3.16	3.80	4.44	5.06	5.70	6.33
KlaResYel18	107.60	215.21	323.70	430.42	538.02	645.63	755.30	860.84	968.44	1,076.05
KlaResYel19	-	1.17	1.90	2.53	3.16	3.80	4.44	5.06	5.70	6.33
KlaResYel20	109.76	219.51	330.17	439.03	548.78	658.54	770.40	878.05	987.81	1,097.57
KlaResYel3	5.13	10.27	15.48	20.57	25.44	25.36	25.27	25.18	25.10	24.96
KlaResYel4	10.36	20.99	31.42	41.53	51.36	61.44	71.42	81.35	91.19	100.77
KlaResYel5	6.03	12.06	18.19	24.17	29.89	35.76	41.57	47.35	53.08	58.65
KlaResYel6	-	-	-	-	-	-	-	-	-	74.89
KlaResYel7	6.84	13.69	20.74	27.42	33.91	40.57	47.16	53.71	60.21	66.54
KlaResYel8	8.46	17.03	25.63	33.88	41.90	50.13	58.27	66.37	74.40	82.22
KlaResYel9	8.25	16.61	25.00	33.05	40.87	48.89	56.83	64.73	72.57	80.20
LaGrComMTA	463.36	926.73	1,393.90	1,853.45	2,316.82	2,780.18	3,252.43	3,706.91	4,170.27	4,633.63
LaGrComMTW	308.18	604.14	891.87	1,168.84	1,437.88	1,691.44	1,943.32	2,182.68	2,407.15	2,623.83
LaGrComRed2	110.46	220.93	332.30	441.85	552.32	662.78	775.36	883.71	994.17	1,104.64
LaGrComYel1	25.06	49.13	72.53	95.06	116.94	137.56	158.05	177.51	195.77	213.39
LaGrComYel10	1.40	2.81	4.22	5.61	7.02	8.42	9.85	11.23	12.63	14.03
LaGrComYel11	47.84	95.68	143.91	191.36	239.20	287.03	335.79	382.71	430.55	478.39
LaGrComYel12	1.55	3.09	4.65	6.19	7.73	9.28	10.86	12.37	13.92	15.47
LaGrComYel13	2.39	4.78	7.20	9.57	11.96	14.35	16.79	19.14	21.53	23.92
LaGrComYel14	2.66	5.45	8.04	10.54	12.97	15.26	17.63	19.81	21.84	23.92
LaGrComYel15	16.49	32.98	49.60	65.95	82.44	98.93	115.74	131.91	148.40	164.89

Appendix 4.3 - SENDOUT® Selected Measures (Expected Case) in Dth

DSM Program	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
LaGrComYel16	16.49	32.98	49.60	65.95	82.44	98.93	115.74	131.91	148.40	164.89
LaGrComYel17	8.10	16.20	24.37	32.40	40.50	48.60	56.86	64.81	72.91	81.01
LaGrComYel18	8.10	16.20	24.37	32.40	40.50	48.60	56.86	64.81	72.91	81.01
LaGrComYel19	11.68	23.36	35.14	46.72	58.40	70.08	81.99	93.45	105.13	116.81
LaGrComYel2	-	1.85	2.78	3.70	4.62	5.55	6.49	7.40	8.32	9.25
LaGrComYel20	-	-	-	-	-	-	-	0.11	0.12	0.34
LaGrComYel3	19.14	38.27	57.56	76.54	95.68	114.81	134.32	153.09	172.22	191.36
LaGrComYel4	12.92	25.83	38.86	51.67	64.58	77.50	90.66	103.33	116.25	129.17
LaGrComYel5	12.92	25.83	38.86	51.67	64.58	77.50	90.66	103.33	116.25	129.17
LaGrComYel6	10.54	21.08	31.71	42.16	52.70	63.24	73.99	84.32	94.86	105.41
LaGrComYel7	45.98	90.14	133.07	174.40	214.54	252.37	289.95	325.66	359.16	391.49
LaGrComYel8	2.97	5.95	8.94	11.89	14.86	17.84	20.87	23.78	26.75	29.73
LaGrComYel9	1.40	2.81	4.22	5.61	7.02	8.42	9.85	11.23	12.63	14.03
LaGrResMTA	88.14	176.28	265.14	352.55	440.69	528.83	618.66	705.11	793.25	881.39
LaGrResMTW	750.12	1,470.48	2,170.80	2,844.96	3,499.80	4,116.96	4,730.04	5,312.64	5,859.00	6,386.40
LaGrResRed1	287.97	564.51	833.36	819.12	806.13	790.24	778.21	764.81	749.74	735.51
LaGrResRed2	121.33	242.65	364.98	485.30	606.63	727.96	851.61	970.61	1,091.94	1,213.26
LaGrResYel1	16.16	32.01	47.26	61.93	76.19	89.62	102.97	115.65	127.55	139.03
LaGrResYel10	1.79	3.50	5.40	7.08	8.71	10.25	11.78	13.23	14.59	15.91
LaGrResYel11	229.13	449.17	663.09	869.02	1,069.05	1,257.57	1,444.84	1,622.80	1,789.69	1,950.79
LaGrResYel12	178.21	349.36	515.74	675.91	831.48	978.11	1,123.76	1,262.18	1,391.98	1,517.28
LaGrResYel13	1.34	2.78	4.10	5.62	6.91	8.13	9.34	10.50	11.58	12.62
LaGrResYel16	51.59	103.18	155.19	206.36	257.95	309.54	362.12	412.72	464.31	515.90
LaGrResYel17	-	-	-	-	1.47	1.76	2.06	2.35	2.64	2.93
LaGrResYel18	49.85	99.69	149.95	199.38	249.23	299.07	349.87	398.76	448.61	498.45
LaGrResYel19	-	-	-	-	1.47	1.76	2.06	2.35	2.64	2.93
LaGrResYel2	2.18	4.38	6.60	8.65	10.64	12.52	14.38	16.16	17.93	19.54
LaGrResYel20	50.84	101.68	152.94	203.37	254.21	305.05	356.87	406.74	457.58	508.42
LaGrResYel3	2.13	4.27	6.43	8.43	10.37	10.17	10.01	9.85	9.65	9.47
LaGrResYel4	4.40	8.80	12.99	17.13	21.07	24.90	28.60	32.13	35.43	38.62
LaGrResYel5	2.50	5.12	7.56	9.91	12.19	14.34	16.47	18.61	20.53	22.48
LaGrResYel6	177.11	347.19	512.54	671.72	826.33	972.05	1,116.80	1,254.36	1,383.36	1,507.88
LaGrResYel7	2.84	5.81	8.57	11.24	13.83	16.27	18.80	21.12	23.39	25.50
LaGrResYel8	3.50	7.18	10.59	13.89	17.19	20.22	23.34	26.21	28.91	31.51
LaGrResYel9	3.42	7.00	10.33	13.55	16.67	19.72	22.76	25.57	28.19	30.73
MedGComRed2	-	808.39	1,215.91	1,616.78	2,020.97	2,425.17	2,837.11	3,233.56	3,637.75	4,041.95
MedGComYel10	7.03	14.07	21.16	28.13	35.17	42.20	49.37	56.27	63.30	70.33
MedGComYel11	239.77	479.55	721.29	959.10	1,198.87	1,438.64	1,683.02	1,918.19	2,157.97	2,397.74
MedGComYel12	7.75	15.51	23.32	31.01	38.76	46.52	54.42	62.02	69.77	77.53
MedGComYel13	11.99	23.98	36.06	47.95	59.94	71.93	84.15	95.91	107.90	119.89
MedGComYel14	10.35	20.50	30.20	39.79	49.25	58.49	67.61	76.44	84.94	93.11
MedGComYel15	82.64	165.28	248.61	330.57	413.21	495.85	580.08	661.14	743.78	826.42
MedGComYel16	82.64	165.28	248.61	330.57	413.21	495.85	580.08	661.14	743.78	826.42
MedGComYel17	40.60	81.20	122.14	162.41	203.01	243.61	284.99	324.81	365.42	406.02
MedGComYel18	40.60	81.20	122.14	162.41	203.01	243.61	284.99	324.81	365.42	406.02
MedGComYel19	58.54	117.09	176.12	234.18	292.72	351.27	410.94	468.36	526.90	585.45
MedGComYel20	-	0.12	0.56	0.87	1.19	1.53	1.76	2.09	2.32	2.55
MedGComYel9	7.03	14.07	21.16	28.13	35.17	42.20	49.37	56.27	63.30	70.33
MedGResRed1	1,150.25	2,279.53	3,357.88	3,318.18	3,285.98	3,252.27	3,211.82	3,177.37	3,138.42	3,096.47
MedGResRed2	480.05	960.11	1,444.10	1,920.21	2,400.27	2,880.32	3,369.58	3,840.42	4,320.48	4,800.53
MedGResYel10	7.42	14.90	21.94	28.91	35.78	42.50	48.96	55.35	61.71	67.65
MedGResYel11	915.24	1,813.80	2,671.83	3,520.32	4,357.69	5,175.59	5,963.09	6,741.85	7,491.61	8,212.76
MedGResYel12	711.86	1,410.73	2,078.09	2,738.03	3,389.31	4,025.46	4,637.96	5,243.66	5,826.81	6,387.70
MedGResYel13	5.80	11.82	17.41	22.94	28.39	33.72	38.85	43.92	48.80	53.50
MedGResYel14	-	-	-	1.46	1.82	2.19	2.56	2.91	3.28	3.64
MedGResYel15	-	-	-	-	-	-	-	-	0.71	1.32

Appendix 4.3 - SENDOUT® Selected Measures (Expected Case) in Dth

DSM Program	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
MedGResYel16	279.61	559.21	841.12	1,118.43	1,398.04	1,677.64	1,962.61	2,236.86	2,516.47	2,796.07
MedGResYel17	1.59	3.18	4.78	6.36	7.95	9.53	11.15	12.71	14.30	15.89
MedGResYel18	270.15	540.30	812.68	1,080.61	1,350.76	1,620.91	1,896.25	2,161.22	2,431.37	2,701.52
MedGResYel19	1.59	3.18	4.78	6.36	7.95	9.53	11.15	12.71	14.30	15.89
MedGResYel20	275.56	551.11	828.93	1,102.22	1,377.78	1,653.33	1,934.17	2,204.44	2,480.00	2,755.55
MedGTComYel1	92.59	183.48	270.28	356.11	440.82	523.56	603.22	682.00	757.84	830.80
MedGTComYel2	4.64	9.27	13.94	18.54	23.18	27.81	32.54	37.09	41.72	46.36
MedGTComYel3	95.91	191.82	288.52	383.64	479.55	575.46	673.21	767.28	863.19	959.10
MedGTComYel4	64.74	129.48	194.75	258.96	323.69	388.43	454.41	517.91	582.65	647.39
MedGTComYel5	64.74	129.48	194.75	258.96	323.69	388.43	454.41	517.91	582.65	647.39
MedGTComYel6	52.83	105.66	158.92	211.32	264.15	316.98	370.82	422.64	475.47	528.30
MedGTComYel7	169.86	336.61	495.85	653.32	808.72	960.51	1,106.66	1,251.18	1,390.33	1,524.16
MedGTComYel8	14.90	29.80	44.82	59.60	74.50	89.40	104.58	119.20	134.10	149.00
MedGTNComMTA	1,695.48	3,390.96	5,100.37	6,781.92	8,477.40	10,172.88	11,900.87	13,563.84	15,259.32	16,954.80
MedGTNComMTW	1,105.68	2,191.20	3,227.76	4,252.80	5,264.40	6,252.48	7,203.84	8,144.64	9,050.40	9,921.60
MedGTNResMTA	348.74	697.48	1,049.08	1,394.96	1,743.69	2,092.43	2,447.86	2,789.91	3,138.65	3,487.39
MedGTNResMTW	3,051.64	6,047.63	8,908.50	11,737.57	14,529.55	17,256.61	19,882.33	22,478.90	24,978.77	27,383.25
MedGTResYel1	65.03	129.27	190.42	250.89	310.57	368.86	424.98	480.48	533.92	585.31
MedGTResYel2	9.18	18.19	26.80	35.31	43.70	51.91	59.80	67.83	75.38	82.63
MedGTResYel3	8.95	17.73	26.12	34.41	42.60	42.16	41.63	41.18	40.68	40.13
MedGTResYel4	18.06	35.80	52.73	69.69	86.27	102.46	118.05	133.47	148.31	162.59
MedGTResYel5	10.51	20.84	30.69	40.44	50.05	59.44	68.71	77.68	86.32	94.63
MedGTResYel6	707.44	1,401.99	2,065.21	2,721.06	3,368.31	4,000.51	4,609.22	5,211.17	5,790.70	6,348.12
MedGTResYel7	11.93	23.64	34.82	45.87	56.78	67.65	77.95	88.13	97.93	107.36
MedGTResYel8	14.74	29.21	43.02	56.68	70.38	83.60	96.31	108.89	121.00	132.65
MedGTResYel9	14.38	28.49	41.96	55.28	68.65	81.54	93.94	106.21	118.02	129.38
MedNComRed2	-	363.19	546.28	726.38	907.97	1,089.57	1,274.65	1,452.76	1,634.35	1,815.95
MedNComYel10	3.16	6.32	9.51	12.64	15.80	18.96	22.18	25.28	28.44	31.60
MedNComYel11	107.72	215.45	324.06	430.90	538.62	646.35	756.14	861.80	969.52	1,077.25
MedNComYel12	3.48	6.97	10.48	13.93	17.42	20.90	24.45	27.86	31.35	34.83
MedNComYel13	5.39	10.77	16.20	21.54	26.93	32.32	37.81	43.09	48.48	53.86
MedNComYel14	4.52	9.21	13.57	17.87	22.13	26.28	30.27	34.23	38.03	41.69
MedNComYel15	37.13	74.26	111.69	148.52	185.65	222.77	260.62	297.03	334.16	371.29
MedNComYel16	37.13	74.26	111.69	148.52	185.65	222.77	260.62	297.03	334.16	371.29
MedNComYel17	18.24	36.48	54.87	72.97	91.21	109.45	128.04	145.93	164.17	182.41
MedNComYel18	18.24	36.48	54.87	72.97	91.21	109.45	128.04	145.93	164.17	182.41
MedNComYel19	26.30	52.61	79.12	105.21	131.51	157.82	184.62	210.42	236.72	263.03
MedNComYel20	-	-	-	0.11	0.24	0.49	0.57	0.75	0.83	0.92
MedNComYel9	3.16	6.32	9.51	12.64	15.80	18.96	22.18	25.28	28.44	31.60
MedNResRed1	516.78	1,024.14	1,508.61	1,490.78	1,476.31	1,461.16	1,442.99	1,427.51	1,410.01	1,391.17
MedNResRed2	215.68	431.35	648.80	862.70	1,078.38	1,294.06	1,513.87	1,725.41	1,941.08	2,156.76
MedNResYel10	3.28	6.51	9.86	12.99	16.08	19.09	22.00	24.87	27.63	30.29
MedNResYel11	411.20	814.90	1,200.39	1,581.59	1,957.80	2,325.26	2,679.07	3,028.95	3,365.80	3,689.79
MedNResYel12	319.82	633.81	933.63	1,230.13	1,522.74	1,808.54	2,083.72	2,355.85	2,617.84	2,869.84
MedNResYel13	2.61	5.16	7.82	10.30	12.76	15.15	17.45	19.73	21.93	24.03
MedNResYel14	-	-	-	-	-	-	-	1.31	1.47	1.64
MedNResYel16	125.62	251.24	377.89	502.48	628.10	753.72	881.75	1,004.97	1,130.59	1,256.21
MedNResYel17	-	1.43	2.15	2.86	3.57	4.28	5.01	5.71	6.43	7.14
MedNResYel18	121.37	242.75	365.12	485.49	606.86	728.24	851.94	970.98	1,092.35	1,213.73
MedNResYel19	-	1.43	2.15	2.86	3.57	4.28	5.01	5.71	6.43	7.14
MedNResYel20	123.80	247.60	372.42	495.20	619.00	742.80	868.98	990.40	1,114.20	1,238.00
MedNWComYel1	41.47	82.43	121.43	159.99	198.05	235.22	271.01	306.41	340.48	373.26
MedNWComYel2	2.08	4.17	6.27	8.33	10.41	12.50	14.62	16.66	18.74	20.83
MedNWComYel3	43.09	86.18	129.62	172.36	215.45	258.54	302.46	344.72	387.81	430.90
MedNWComYel4	29.09	58.17	87.50	116.34	145.43	174.51	204.16	232.69	261.77	290.86
MedNWComYel5	29.09	58.17	87.50	116.34	145.43	174.51	204.16	232.69	261.77	290.86

Appendix 4.3 - SENDOUT® Selected Measures (Expected Case) in Dth

DSM Program	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
MedNWComYel6	23.74	47.47	71.40	94.94	118.68	142.41	166.60	189.88	213.62	237.35
MedNWComYel7	76.31	151.23	222.77	293.52	363.34	431.53	497.19	562.13	624.64	684.77
MedNWComYel8	6.69	13.39	20.14	26.78	33.47	40.16	46.99	53.55	60.25	66.94
MedNWPComMTA	761.74	1,523.47	2,291.47	3,046.95	3,808.69	4,570.42	5,346.77	6,093.90	6,855.64	7,617.37
MedNWPComMTW	506.77	1,004.30	1,479.39	1,949.20	2,412.85	2,865.72	3,301.76	3,732.96	4,148.10	4,547.40
MedNWPResMTA	156.68	313.36	471.33	626.72	783.40	940.08	1,099.76	1,253.44	1,410.12	1,566.80
MedNWPResMTW	1,371.02	2,717.05	4,002.37	5,273.40	6,527.77	7,752.97	8,932.64	10,099.22	11,222.34	12,302.62
MedNWResYel1	29.22	57.90	85.55	112.72	139.53	165.72	190.93	215.87	239.87	262.97
MedNWResYel2	4.01	8.17	12.04	15.86	19.64	23.32	26.87	30.37	33.75	37.00
MedNWResYel3	3.91	7.97	11.73	15.46	19.14	18.94	18.70	18.50	18.28	18.03
MedNWResYel4	8.12	16.08	23.69	31.21	38.63	45.88	52.86	59.77	66.63	73.05
MedNWResYel5	4.59	9.36	13.79	18.17	22.49	26.71	30.77	34.79	38.65	42.37
MedNWResYel6	317.84	629.88	927.85	1,222.51	1,513.30	1,797.33	2,070.81	2,341.25	2,601.62	2,852.05
MedNWResYel7	5.21	10.62	15.64	20.61	25.51	30.30	34.91	39.46	43.85	48.07
MedNWResYel8	6.44	13.12	19.33	25.46	31.52	37.44	43.13	48.76	54.18	59.60
MedNWResYel9	6.28	12.80	18.85	24.84	30.74	36.51	42.07	47.56	52.85	57.93
RosComMTA	693.50	1,387.00	2,086.20	2,774.00	3,467.50	4,161.00	4,867.80	5,548.00	6,241.50	6,935.00
RosComMTW	454.85	900.90	1,328.25	1,746.36	2,157.10	2,560.80	2,957.57	3,344.00	3,699.63	4,062.30
RosComRed2	-	346.97	521.88	693.95	867.43	1,040.92	1,217.73	1,387.89	1,561.38	1,734.86
RosComYel1	40.18	79.70	117.51	154.50	190.84	226.55	261.65	295.84	327.30	359.39
RosComYel10	3.41	6.81	10.25	13.62	17.03	20.44	23.91	27.25	30.65	34.06
RosComYel11	116.11	232.22	349.28	464.44	580.54	696.65	814.99	928.87	1,044.98	1,161.09
RosComYel12	3.75	7.51	11.29	15.02	18.77	22.53	26.35	30.03	33.79	37.54
RosComYel13	5.81	11.61	17.46	23.22	29.03	34.83	40.75	46.44	52.25	58.05
RosComYel14	4.33	8.89	13.11	17.23	21.28	25.27	29.18	33.10	36.62	40.21
RosComYel15	40.02	80.04	120.39	160.08	200.09	240.11	280.90	320.15	360.17	400.19
RosComYel16	40.02	80.04	120.39	160.08	200.09	240.11	280.90	320.15	360.17	400.19
RosComYel17	19.66	39.32	59.14	78.64	98.31	117.97	138.00	157.29	176.95	196.61
RosComYel18	19.66	39.32	59.14	78.64	98.31	117.97	138.00	157.29	176.95	196.61
RosComYel19	28.35	56.70	85.28	113.40	141.75	170.10	198.99	226.80	255.15	283.50
RosComYel2	2.24	4.49	6.75	8.98	11.22	13.47	15.76	17.96	20.20	22.45
RosComYel20	-	-	-	-	0.12	0.37	0.53	0.71	0.79	0.86
RosComYel3	46.44	92.89	139.71	185.77	232.22	278.66	326.00	371.55	417.99	464.44
RosComYel4	31.35	62.70	94.31	125.40	156.75	188.10	220.05	250.79	282.14	313.49
RosComYel5	31.35	62.70	94.31	125.40	156.75	188.10	220.05	250.79	282.14	313.49
RosComYel6	25.58	51.17	76.96	102.33	127.91	153.50	179.57	204.66	230.24	255.83
RosComYel7	73.82	146.22	215.58	283.44	350.11	415.63	480.03	542.75	600.47	659.33
RosComYel8	7.22	14.43	21.70	28.86	36.08	43.29	50.64	57.72	64.94	72.15
RosComYel9	3.41	6.81	10.25	13.62	17.03	20.44	23.91	27.25	30.65	34.06
RosResMTA	115.88	231.76	348.59	463.52	579.40	695.28	813.38	927.04	1,042.91	1,158.79
RosResMTW	992.40	1,965.60	2,898.00	3,810.24	4,706.40	5,587.20	6,452.88	7,296.00	8,071.92	8,863.20
RosResRed1	387.03	766.57	1,130.20	1,114.48	1,101.28	1,089.49	1,078.54	1,067.02	1,049.33	1,036.98
RosResRed2	-	319.03	479.85	638.05	797.56	957.08	1,119.65	1,276.10	1,435.61	1,595.13
RosResYel1	21.85	43.41	64.00	84.27	104.08	123.56	142.71	161.36	178.52	196.01
RosResYel10	2.44	4.82	7.37	9.69	11.97	14.21	16.41	18.56	20.53	22.55
RosResYel11	307.96	609.95	899.29	1,182.37	1,460.46	1,733.79	2,002.42	2,264.05	2,504.83	2,750.38
RosResYel12	239.52	474.41	699.45	919.62	1,135.91	1,348.50	1,557.44	1,760.93	1,948.20	2,139.18
RosResYel13	1.93	3.83	5.75	7.69	9.50	11.28	13.02	14.72	16.29	17.89
RosResYel14	-	-	-	-	-	-	-	-	1.13	1.37
RosResYel16	104.82	209.64	315.32	419.28	524.10	628.92	735.75	838.56	943.38	1,048.20
RosResYel17	-	0.71	1.79	2.38	2.98	3.57	4.18	4.77	5.36	5.96
RosResYel18	101.28	202.55	304.66	405.10	506.38	607.65	710.87	810.20	911.48	1,012.75
RosResYel19	-	0.71	1.79	2.38	2.98	3.57	4.18	4.77	5.36	5.96
RosResYel2	2.98	6.01	9.01	11.84	14.62	17.36	20.05	22.67	25.08	27.54
RosResYel20	103.30	206.60	310.75	413.20	516.50	619.80	725.08	826.40	929.70	1,033.01
RosResYel3	2.90	5.86	8.78	11.54	14.25	14.10	13.96	13.81	13.58	13.42

Appendix 4.3 - SENDOUT® Selected Measures (Expected Case) in Dth

DSM Program	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
RosResYel4	5.97	12.02	17.72	23.30	28.77	34.27	39.58	44.75	49.51	54.36
RosResYel5	3.41	7.00	10.31	13.56	16.75	19.88	22.96	25.96	28.72	31.64
RosResYel6	238.04	471.47	463.41	456.96	451.55	446.71	442.22	437.50	430.25	425.18
RosResYel7	3.87	7.94	11.70	15.38	19.00	22.55	26.05	29.55	32.69	35.89
RosResYel8	4.78	9.81	14.46	19.01	23.47	27.87	32.29	36.51	40.39	44.35
RosResYel9	4.66	9.56	14.10	18.54	22.90	27.18	31.50	35.61	39.40	43.26
SpoBComYel10	185.38	370.76	557.66	741.52	926.89	1,112.27	1,301.21	1,483.03	1,668.41	1,853.79
SpoBComYel11	204.04	408.09	613.81	816.18	1,020.22	1,224.27	1,432.23	1,632.36	1,836.41	2,040.45
SpoBComYel12	89.36	178.73	268.83	357.46	446.83	536.19	627.27	714.92	804.29	893.65
SpoBoComMTA	490.66	981.32	1,476.02	1,962.64	2,453.31	2,943.97	3,444.04	3,925.29	4,415.95	4,906.61
SpoBoComMTW	1,145.69	2,281.44	3,373.00	4,453.63	5,533.11	6,612.91	7,632.79	8,642.41	9,646.73	10,658.99
SpoBoComRed1	1,679.53	3,344.50	4,944.68	6,528.84	8,111.30	9,694.25	11,189.35	12,669.40	14,141.69	15,625.63
SpoBoComRed2	-	260.91	392.43	521.81	652.27	782.72	915.68	1,043.63	1,174.08	1,304.54
SpoBoComYel1	12.08	24.16	36.33	48.31	60.39	72.47	84.78	96.62	108.70	120.78
SpoBoComYel2	17.69	35.38	53.22	70.76	88.45	106.14	124.17	141.52	159.21	176.90
SpoBoComYel3	376.25	752.50	1,131.84	1,504.99	1,881.24	2,257.49	2,640.95	3,009.98	3,386.23	3,762.48
SpoBoComYel4	98.82	197.64	297.27	395.28	494.10	592.92	693.64	790.56	889.38	988.20
SpoBoComYel5	40.32	80.64	121.29	161.28	201.61	241.93	283.02	322.57	362.89	403.21
SpoBoComYel6	67.29	134.00	198.11	261.58	324.99	388.41	448.31	507.61	566.60	626.05
SpoBoComYel7	54.29	108.58	163.32	217.16	271.45	325.74	381.07	434.32	488.61	542.90
SpoBoComYel8	21.58	43.17	64.93	86.34	107.93	129.51	151.51	172.68	194.26	215.85
SpoBoComYel9	147.31	294.63	443.16	589.26	736.58	883.89	1,034.03	1,178.52	1,325.83	1,473.15
SpoBoResMTA	12,623.68	25,247.35	37,974.78	50,494.70	63,118.38	75,742.05	88,607.83	100,989.41	113,613.08	126,236.76
SpoBoResMTW	109,351.80	217,755.60	321,940.79	425,083.20	528,115.00	631,178.39	728,522.20	824,886.41	920,745.01	1,017,362.01
SpoBoResRed1	37,290.62	74,257.95	109,786.68	144,959.80	180,095.20	215,241.37	248,437.08	281,298.73	313,987.96	346,935.82
SpoBoResRed2	2,758.45	5,516.89	8,298.01	11,033.78	13,792.23	16,550.68	19,362.02	22,067.57	24,826.02	27,584.46
SpoBoResYel1	122.50	243.93	360.64	476.18	591.60	707.05	816.09	924.04	1,031.42	1,139.65
SpoBoResYel2	2,023.42	4,029.31	5,957.13	7,865.66	9,772.14	11,679.20	13,480.43	15,263.54	17,037.29	18,825.07
SpoBoResYel3	35.82	71.32	105.45	139.23	172.98	172.28	170.45	168.87	167.55	166.62
SpoBoResYel4	193.42	385.15	569.43	751.86	934.10	1,116.39	1,288.57	1,459.01	1,628.56	1,799.45
SpoBoResYel5	38.68	77.03	113.89	150.37	186.82	223.28	257.71	291.80	325.71	359.89
SpoBoResYel6	193.42	385.15	569.43	751.86	934.10	1,116.39	1,288.57	1,459.01	1,628.56	1,799.45
SpoBoResYel7	38.68	77.03	113.89	150.37	186.82	223.28	257.71	291.80	325.71	359.89
SpoBoResYel8	72.31	143.99	212.88	281.08	349.21	417.35	481.72	545.44	608.83	672.71
SpoBoResYel9	73.37	146.11	216.01	285.22	354.35	423.51	488.82	553.48	617.80	682.62
SpoBResYel10	22.79	45.39	67.10	88.60	110.08	131.56	151.85	171.94	191.92	212.06
SpoBResYel11	1,598.36	3,182.86	4,705.71	6,213.31	7,719.29	9,225.73	10,648.58	12,057.10	13,458.24	14,870.46
SpoBResYel12	2,279.30	4,538.84	6,710.46	8,860.33	11,007.90	13,156.13	15,185.14	17,193.73	19,191.78	21,205.65
SpoBResYel13	14.89	29.96	44.29	58.48	72.65	86.83	100.22	113.48	126.67	139.96
SpoBResYel14	1,027.52	2,046.13	3,025.10	3,994.27	4,962.40	5,930.83	6,845.51	7,751.00	8,651.72	9,559.58
SpoBResYel15	7,407.79	14,751.36	21,809.15	28,796.30	35,775.96	42,757.76	49,352.09	55,880.07	62,373.79	68,918.89
SpoBResYel16	18.64	37.49	55.43	73.19	90.93	108.68	125.44	142.03	158.54	175.18
SpoBResYel17	1.38	2.77	4.16	5.54	6.92	8.30	9.71	11.07	12.46	13.84
SpoBResYel18	-	-	1.51	2.01	2.52	3.02	3.53	4.03	4.53	5.03
SpoBResYel19	8.87	17.65	26.36	34.81	43.25	51.68	59.66	67.55	75.40	83.31
SpoBResYel20	420.92	841.84	1,266.21	1,683.67	2,104.59	2,525.51	2,954.50	3,367.35	3,788.26	4,209.18
SpoBResYel21	5.50	11.00	16.55	22.01	27.51	33.01	38.62	44.02	49.52	55.02
SpoBResYel22	44.29	88.57	133.23	177.15	221.44	265.72	310.86	354.30	398.58	442.87
SpoBResYel23	5.50	11.00	16.55	22.01	27.51	33.01	38.62	44.02	49.52	55.02
SpoBResYel24	1,047.16	2,094.33	3,150.09	4,188.65	5,235.81	6,282.98	7,350.22	8,377.30	9,424.46	10,471.63
SpoBResYel25	178.86	356.18	526.59	695.30	863.83	1,032.40	1,191.63	1,349.25	1,506.04	1,664.08
SpoGComYel10	24.31	48.62	73.14	97.25	121.56	145.87	170.65	194.50	218.81	243.12
SpoGComYel11	26.76	53.52	80.50	107.04	133.80	160.56	187.83	214.08	240.84	267.60
SpoGComYel12	11.72	23.44	35.26	46.88	58.60	70.32	82.26	93.76	105.48	117.20
SpoGResYel10	2.82	5.89	8.71	11.50	14.29	17.08	19.91	22.55	25.17	27.81
SpoGResYel11	209.62	417.42	617.14	814.86	1,012.37	1,209.93	1,396.53	1,581.26	1,765.01	1,950.22

Appendix 4.3 - SENDOUT® Selected Measures (Expected Case) in Dth

DSM Program	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
SpoGResYel12	298.92	595.26	880.06	1,162.01	1,443.66	1,725.39	1,991.49	2,254.92	2,516.96	2,781.07
SpoGResYel13	1.77	3.81	5.75	7.59	9.43	11.27	13.01	14.73	16.44	18.17
SpoGResYel14	134.76	268.34	396.73	523.84	650.81	777.81	897.77	1,016.52	1,134.65	1,253.72
SpoGResYel15	971.51	1,934.60	2,860.22	3,776.56	4,691.93	5,607.57	6,472.41	7,328.53	8,180.17	9,038.54
SpoGResYel16	2.33	4.87	7.20	9.50	11.80	14.11	16.28	18.43	20.79	22.97
SpoGResYel17	-	-	-	-	-	-	1.27	1.45	1.63	1.81
SpoGResYel19	0.87	2.20	3.25	4.42	5.61	6.71	7.74	8.77	9.79	10.81
SpoGResYel20	55.20	110.40	166.06	220.81	276.01	331.21	387.48	441.62	496.82	552.02
SpoGResYel21	-	1.44	2.17	2.89	3.61	4.33	5.07	5.77	6.49	7.22
SpoGResYel22	6.13	12.27	18.45	24.53	30.67	36.80	43.05	49.07	55.20	61.34
SpoGResYel23	-	1.44	2.17	2.89	3.61	4.33	5.07	5.77	6.49	7.22
SpoGResYel24	137.33	274.67	413.13	549.33	686.66	824.00	963.96	1,098.66	1,236.00	1,373.33
SpoGResYel25	23.46	46.71	69.06	91.19	113.29	135.40	156.28	176.95	197.51	218.24
SpoGTComRed1	220.27	438.62	648.48	856.24	1,063.78	1,271.38	1,467.46	1,661.56	1,854.65	2,049.26
SpoGTComRed2	-	34.22	51.47	68.43	85.54	102.65	120.09	136.87	153.98	171.09
SpoGTComYel1	1.58	3.17	4.77	6.34	7.92	9.50	11.12	12.67	14.26	15.84
SpoGTComYel2	2.32	4.64	6.98	9.28	11.60	13.92	16.28	18.56	20.88	23.20
SpoGTComYel3	49.34	98.69	148.44	197.38	246.72	296.06	346.35	394.75	444.10	493.44
SpoGTComYel4	12.96	25.92	38.99	51.84	64.80	77.76	90.97	103.68	116.64	129.60
SpoGTComYel5	5.29	10.58	15.91	21.15	26.44	31.73	37.12	42.30	47.59	52.88
SpoGTComYel6	8.74	17.40	25.98	34.31	42.62	50.94	58.79	66.57	74.31	82.11
SpoGTComYel7	7.12	14.24	21.42	28.48	35.60	42.72	49.98	56.96	64.08	71.20
SpoGTComYel8	2.40	4.80	7.22	9.60	12.00	14.40	16.85	19.20	21.60	24.00
SpoGTComYel9	19.32	38.64	58.12	77.28	96.60	115.92	135.61	154.56	173.88	193.20
SpoGTNComMTA	64.35	128.70	193.58	257.40	321.75	386.09	451.68	514.79	579.14	643.49
SpoGTNComMTW	149.36	297.43	439.73	580.61	721.34	862.11	995.07	1,126.69	1,257.62	1,389.59
SpoGTNResMTA	1,655.56	3,311.13	4,980.30	6,622.26	8,277.82	9,933.38	11,620.70	13,244.51	14,900.08	16,555.64
SpoGTNResMTW	14,395.68	28,666.56	42,382.08	55,960.32	69,524.00	83,091.84	95,906.72	108,592.64	121,212.00	133,931.20
SpoGTResRed1	4,890.57	9,738.75	14,398.25	19,011.12	23,619.04	28,228.38	32,581.91	36,891.64	41,178.75	45,499.78
SpoGTResRed2	361.76	723.53	1,088.26	1,447.05	1,808.82	2,170.58	2,539.28	2,894.11	3,255.87	3,617.63
SpoGTResYel1	15.90	31.99	47.30	62.45	77.59	92.73	107.03	121.19	135.27	149.46
SpoGTResYel2	265.37	528.43	781.26	1,031.56	1,281.59	1,531.70	1,767.93	2,001.78	2,234.40	2,468.86
SpoGTResYel3	4.55	9.26	13.69	18.07	22.69	22.59	22.35	22.15	21.97	21.85
SpoGTResYel4	25.37	50.51	74.68	98.60	122.50	146.41	168.99	191.35	213.58	235.99
SpoGTResYel5	5.02	10.00	14.78	19.62	24.50	29.28	33.80	38.27	42.72	47.20
SpoGTResYel6	25.37	50.51	74.68	98.60	122.50	146.41	168.99	191.35	213.58	235.99
SpoGTResYel7	5.02	10.00	14.78	19.62	24.50	29.28	33.80	38.27	42.72	47.20
SpoGTResYel8	9.39	18.69	27.92	36.86	45.80	54.74	63.18	71.53	79.85	88.22
SpoGTResYel9	9.53	18.97	28.33	37.41	46.47	55.54	64.11	72.59	81.02	89.52
SpoNComYel10	94.21	188.42	283.40	376.84	471.05	565.25	661.27	753.67	847.88	942.09
SpoNComYel11	103.70	207.39	311.94	414.78	518.48	622.17	727.85	829.56	933.26	1,036.95
SpoNComYel12	45.42	90.83	136.62	181.66	227.08	272.49	318.78	363.32	408.73	454.15
SpoNResYel10	11.47	23.07	34.10	45.03	55.94	66.86	77.17	87.38	97.53	107.77
SpoNResYel11	812.28	1,617.52	2,391.42	3,157.58	3,922.92	4,688.49	5,411.57	6,127.38	6,839.43	7,557.12
SpoNResYel12	1,158.33	2,306.63	3,410.23	4,502.79	5,594.18	6,685.90	7,717.04	8,737.80	9,753.20	10,776.64
SpoNResYel13	7.57	15.07	22.51	29.72	36.92	44.13	50.93	57.67	64.37	71.13
SpoNResYel14	522.18	1,039.84	1,537.34	2,029.87	2,521.88	3,014.03	3,478.87	3,939.03	4,396.78	4,858.15
SpoNResYel15	3,764.62	7,496.59	11,083.34	14,634.19	18,181.23	21,729.35	25,080.57	28,398.07	31,698.16	35,024.36
SpoNResYel16	9.47	18.86	28.17	37.20	46.21	55.23	63.75	72.18	80.57	89.02
SpoNResYel17	-	1.41	2.12	2.81	3.52	4.22	4.94	5.63	6.33	7.03
SpoNResYel18	-	-	-	-	1.18	1.53	1.80	2.05	2.30	2.56
SpoNResYel19	4.41	8.97	13.26	17.51	21.98	26.27	30.32	34.33	38.32	42.34
SpoNResYel20	213.91	427.82	643.49	855.64	1,069.55	1,283.46	1,501.47	1,711.27	1,925.18	2,139.09
SpoNResYel21	2.80	5.59	8.41	11.18	13.98	16.78	19.63	22.37	25.17	27.96
SpoNResYel22	23.77	47.54	71.50	95.07	118.84	142.61	166.83	190.14	213.91	237.68
SpoNResYel23	2.80	5.59	8.41	11.18	13.98	16.78	19.63	22.37	25.17	27.96

Appendix 4.3 - SENDOUT® Selected Measures (Expected Case) in Dth

DSM Program	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
SpoNResYel24	532.16	1,064.33	1,600.87	2,128.66	2,660.82	3,192.99	3,735.36	4,257.32	4,789.48	5,321.65
SpoNResYel25	90.90	181.01	267.61	353.35	438.99	524.66	605.58	685.68	765.37	845.68
SpoNWComRed1	853.53	1,699.66	2,512.87	3,317.93	4,122.14	4,926.58	5,686.39	6,438.55	7,186.76	7,940.89
SpoNWComRed2	-	132.59	199.43	265.18	331.48	397.78	465.34	530.37	596.66	662.96
SpoNWComYel1	6.14	12.28	18.46	24.55	30.69	36.83	43.08	49.10	55.24	61.38
SpoNWComYel2	8.99	17.98	27.04	35.96	44.95	53.94	63.10	71.92	80.91	89.90
SpoNWComYel3	191.21	382.42	575.20	764.83	956.04	1,147.25	1,342.12	1,529.66	1,720.87	1,912.08
SpoNWComYel4	50.22	100.44	151.07	200.88	251.10	301.32	352.50	401.76	451.98	502.20
SpoNWComYel5	20.49	40.98	61.64	81.96	102.46	122.95	143.83	163.93	184.42	204.91
SpoNWComYel6	34.20	68.10	100.68	132.94	165.16	197.39	227.83	257.97	287.94	318.16
SpoNWComYel7	27.59	55.18	83.00	110.36	137.95	165.54	193.66	220.72	248.31	275.90
SpoNwComYel8	9.30	18.60	27.98	37.20	46.50	55.80	65.28	74.40	83.70	93.00
SpoNWComYel9	74.87	149.73	225.21	299.46	374.32	449.19	525.49	598.92	673.78	748.65
SpoNWPComMTA	249.35	498.70	750.11	997.41	1,246.76	1,496.11	1,750.25	1,994.82	2,244.17	2,493.52
SpoNWPComMTW	578.77	1,152.53	1,703.96	2,249.87	2,795.19	3,340.68	3,855.90	4,365.93	4,873.29	5,384.66
SpoNWPResMTA	6,415.31	12,830.62	19,298.66	25,661.24	32,076.55	38,491.86	45,030.21	51,322.48	57,737.80	64,153.11
SpoNWPResMTW	55,852.47	111,220.74	164,434.32	217,115.28	269,739.75	322,380.36	372,099.63	421,318.56	470,279.25	519,627.30
SpoNWResRed1	18,950.97	37,737.65	55,793.23	73,668.09	91,523.79	109,384.96	126,254.91	142,955.09	159,567.65	176,311.64
SpoNWResRed2	1,401.83	2,803.67	4,217.02	5,607.33	7,009.17	8,411.00	9,839.72	11,214.67	12,616.50	14,018.33
SpoNWResYel1	62.25	123.96	183.28	241.99	300.65	359.32	414.74	469.59	524.16	579.17
SpoNWResYel2	1,028.30	2,047.68	3,027.39	3,997.30	4,966.17	5,935.33	6,850.71	7,756.88	8,658.29	9,566.84
SpoNWResYel3	18.02	36.25	53.59	70.76	87.91	87.55	86.62	85.82	85.15	84.67
SpoNWResYel4	98.29	195.73	289.38	382.09	474.71	567.35	654.85	741.46	827.63	914.47
SpoNWResYel5	19.46	39.15	57.88	76.42	94.94	113.47	130.97	148.29	165.53	182.89
SpoNWResYel6	98.29	195.73	289.38	382.09	474.71	567.35	654.85	741.46	827.63	914.47
SpoNWResYel7	19.46	39.15	57.88	76.42	94.94	113.47	130.97	148.29	165.53	182.89
SpoNWResYel8	36.75	73.17	108.18	142.84	177.47	212.10	244.81	277.19	309.40	341.87
SpoNWResYel9	37.29	74.25	109.78	144.95	180.08	215.22	248.42	281.28	313.96	346.91
Total	333,069.81	665,735.15	986,226.31	1,300,156.08	1,613,879.32	1,927,361.57	2,227,094.37	2,522,535.25	2,816,953.51	3,112,909.80
WA/ID	301,191.24	600,472.36	889,351.16	1,175,141.40	1,460,912.64	1,746,704.10	2,018,933.17	2,287,556.95	2,555,520.64	2,825,361.30
OR	31,878.57	65,262.79	96,875.14	125,014.69	152,966.68	180,657.47	208,161.20	234,978.30	261,432.88	287,548.50

Appendix 4.3 - SENDOUT® Selected Measures (Expected Case) in Dth

DSM Program	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029
KlaComRed2	2,507.25	2,727.70	2,955.01	3,182.32	3,418.97	3,636.94	3,636.94	3,636.94	3,646.90	3,636.94
KlaComYel10	28.65	31.17	31.17	31.17	31.26	31.17	31.17	31.17	31.26	31.17
KlaComYel11	976.76	1,062.64	1,151.20	1,239.75	1,331.94	1,328.30	1,328.30	1,328.30	1,331.94	1,328.30
KlaComYel12	31.58	34.36	37.22	40.09	43.07	45.81	48.67	51.54	54.55	57.26
KlaComYel13	48.84	53.13	57.56	61.99	66.60	66.42	66.42	66.42	66.60	66.42
KlaComYel14	58.75	64.04	64.04	64.04	64.04	64.02	63.97	63.97	63.85	63.81
KlaComYel15	336.66	366.26	366.26	366.26	367.26	366.26	366.26	366.26	367.26	366.26
KlaComYel16	336.66	366.26	366.26	366.26	367.26	366.26	366.26	366.26	367.26	366.26
KlaComYel17	165.40	179.94	194.94	209.93	225.54	224.93	224.93	224.93	225.54	224.93
KlaComYel18	165.40	179.94	194.94	209.93	225.54	224.93	224.93	224.93	225.54	224.93
KlaComYel19	238.49	259.46	281.08	302.71	325.22	324.33	324.33	324.33	325.22	324.33
KlaComYel20	1.45	1.69	1.83	1.97	2.11	2.25	2.39	2.53	2.66	2.80
KlaComYel9	28.65	31.17	31.17	31.17	31.26	31.17	31.17	31.17	31.26	31.17
KlamComMTA	10,517.17	11,441.93	12,395.43	12,395.43	12,429.39	12,395.43	12,395.43	12,395.43	12,429.39	12,395.43
KlamComMTW	6,445.83	7,026.34	7,611.87	8,197.39	8,197.39	8,194.84	8,188.45	8,187.17	8,171.84	8,166.73
KlamComYel1	524.23	571.44	619.06	666.68	714.30	761.69	808.66	856.09	901.96	948.84
KlamComYel2	18.88	18.83	18.83	18.83	18.88	18.83	18.83	18.83	18.88	18.83
KlamComYel3	390.70	425.06	460.48	495.90	532.78	531.32	531.32	531.32	532.78	531.32
KlamComYel4	263.72	286.91	286.91	286.91	287.70	286.91	286.91	286.91	287.70	286.91
KlamComYel5	263.72	286.91	286.91	286.91	287.70	286.91	286.91	286.91	287.70	286.91
KlamComYel6	215.21	234.14	253.65	273.16	293.47	292.67	292.67	292.67	293.47	292.67
KlamComYel7	961.74	1,048.36	1,135.72	1,223.09	1,310.45	1,397.38	1,483.55	1,570.58	1,654.73	1,740.73
KlamComYel8	60.70	66.03	71.54	77.04	82.77	88.04	93.55	99.05	104.84	110.06
KlamResMTA	2,333.06	2,538.20	2,538.20	2,538.20	2,545.16	2,538.20	2,538.20	2,538.20	2,545.16	2,538.20
KlamResMTW	18,364.06	20,017.92	21,686.08	23,354.24	25,022.40	26,682.24	28,327.78	29,989.44	31,596.24	33,238.40
KlamResYel1	362.11	361.83	361.83	361.83	361.83	361.72	361.43	361.38	360.70	360.47
KlamResYel2	51.12	51.08	51.08	51.08	51.08	51.07	51.03	51.02	50.92	50.89
KlaResRed1	1,915.68	1,914.18	1,914.18	1,914.18	1,914.18	1,913.59	1,912.10	1,911.80	1,908.22	1,907.02
KlaResRed2	3,211.55	3,493.94	3,785.10	4,076.26	4,087.43	4,076.26	4,076.26	4,076.26	4,087.43	4,076.26
KlaResYel10	46.04	50.19	54.37	58.55	62.73	66.89	71.02	75.18	79.21	83.33
KlaResYel11	5,589.03	6,092.38	6,600.08	7,107.78	7,615.47	8,120.64	8,621.45	9,127.17	9,616.20	10,115.98
KlaResYel12	4,347.03	4,738.52	5,133.39	5,528.27	5,923.15	6,316.05	6,705.57	7,098.91	7,479.26	7,867.99
KlaResYel13	36.53	39.82	43.14	46.46	49.77	53.08	56.35	59.65	62.85	66.12
KlaResYel14	1.60	1.74	1.89	2.03	2.18	2.18	2.18	2.18	2.18	2.18
KlaResYel16	1,228.44	1,336.45	1,447.82	1,559.19	1,675.14	1,781.93	1,893.30	2,004.67	2,121.84	2,227.42
KlaResYel17	6.98	7.60	8.23	8.86	9.52	10.13	10.76	11.39	12.06	12.66
KlaResYel18	1,186.89	1,291.26	1,398.86	1,506.47	1,618.49	1,721.67	1,829.28	1,936.88	2,050.09	2,152.09
KlaResYel19	6.98	7.60	8.23	8.86	9.52	10.13	10.76	11.39	12.06	12.66
KlaResYel20	1,210.63	1,317.08	1,426.84	1,536.59	1,650.86	1,646.35	1,646.35	1,646.35	1,650.86	1,646.35
KlaResYel3	24.91	24.89	24.89	24.89	24.89	24.89	24.87	24.86	24.82	24.80
KlaResYel4	110.64	120.61	130.66	140.71	150.76	160.76	170.68	180.69	190.37	200.26
KlaResYel5	64.40	70.20	76.05	81.90	87.75	93.57	99.34	105.17	110.80	116.56
KlaResYel6	82.23	89.63	97.10	104.57	112.04	119.47	126.84	134.28	141.47	148.83
KlaResYel7	73.06	79.64	86.28	92.91	99.55	106.15	112.70	119.31	125.70	132.24
KlaResYel8	90.27	98.40	106.60	114.80	123.00	131.16	139.25	147.42	155.32	163.39
KlaResYel9	88.05	95.98	103.98	111.98	119.97	127.93	135.82	143.79	151.49	159.37
LaGrComMTA	5,110.96	5,560.36	6,023.72	6,023.72	6,040.23	6,023.72	6,023.72	6,023.72	6,040.23	6,023.72
LaGrComMTW	2,866.69	3,114.28	3,366.75	3,618.83	3,601.58	3,589.84	3,575.35	3,566.38	3,560.16	3,538.08
LaGrComRed2	1,218.43	1,325.56	1,436.03	1,546.49	1,661.49	1,767.42	1,767.42	1,767.42	1,772.26	1,767.42
LaGrComYel1	233.14	253.28	273.81	294.31	313.83	333.67	353.09	372.92	392.95	411.07
LaGrComYel10	15.48	16.84	16.84	16.84	16.89	16.84	16.84	16.84	16.89	16.84
LaGrComYel11	527.67	574.07	621.91	669.75	719.55	717.59	717.59	717.59	719.55	717.59
LaGrComYel12	17.06	18.56	20.11	21.66	23.27	24.75	26.30	27.84	29.47	30.94
LaGrComYel13	26.38	28.70	31.10	33.49	35.98	35.88	35.88	35.88	35.98	35.88
LaGrComYel14	26.13	28.39	28.33	28.27	28.14	28.05	27.93	27.86	27.81	27.64
LaGrComYel15	181.87	197.86	197.86	197.86	198.40	197.86	197.86	197.86	198.40	197.86

Appendix 4.3 - SENDOUT® Selected Measures (Expected Case) in Dth

DSM Program	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029
LaGrComYel16	181.87	197.86	197.86	197.86	198.40	197.86	197.86	197.86	198.40	197.86
LaGrComYel17	89.35	97.21	105.31	113.41	121.84	121.51	121.51	121.51	121.84	121.51
LaGrComYel18	89.35	97.21	105.31	113.41	121.84	121.51	121.51	121.51	121.84	121.51
LaGrComYel19	128.84	140.17	151.85	163.53	175.69	175.21	175.21	175.21	175.69	175.21
LaGrComYel2	10.20	10.17	10.17	10.17	10.20	10.17	10.17	10.17	10.20	10.17
LaGrComYel20	0.37	0.41	0.55	0.69	0.73	0.78	0.83	0.87	0.92	1.07
LaGrComYel3	211.07	229.63	248.76	267.90	287.82	287.03	287.03	287.03	287.82	287.03
LaGrComYel4	142.47	155.00	155.00	155.00	155.42	155.00	155.00	155.00	155.42	155.00
LaGrComYel5	142.47	155.00	155.00	155.00	155.42	155.00	155.00	155.00	155.42	155.00
LaGrComYel6	116.26	126.49	137.03	147.57	158.54	158.11	158.11	158.11	158.54	158.11
LaGrComYel7	427.72	464.66	502.33	539.94	575.75	612.14	647.77	684.15	720.90	754.14
LaGrComYel8	32.79	35.67	38.65	41.62	44.71	47.56	50.54	53.51	56.64	59.46
LaGrComYel9	15.48	16.84	16.84	16.84	16.89	16.84	16.84	16.84	16.89	16.84
LaGrResMTA	972.18	1,057.66	1,057.66	1,057.66	1,060.56	1,057.66	1,057.66	1,057.66	1,060.56	1,057.66
LaGrResMTW	6,977.52	7,580.16	8,194.68	8,808.24	9,392.40	9,985.92	10,567.20	11,160.72	11,760.24	12,302.40
LaGrResRed1	730.53	727.49	725.97	724.59	721.14	718.79	715.89	714.09	712.84	708.42
LaGrResRed2	1,338.24	1,455.91	1,577.24	1,698.57	1,703.22	1,698.57	1,698.57	1,698.57	1,703.22	1,698.57
LaGrResYel1	138.09	137.51	137.23	136.97	136.31	135.87	135.32	134.98	134.75	133.91
LaGrResYel10	17.38	18.99	20.53	22.16	23.63	25.13	26.59	28.08	29.59	30.96
LaGrResYel11	2,131.35	2,315.44	2,503.15	2,690.57	2,869.00	3,050.30	3,227.86	3,409.15	3,592.28	3,757.89
LaGrResYel12	1,657.72	1,800.89	1,946.89	2,092.66	2,231.45	2,372.46	2,510.56	2,651.56	2,794.00	2,922.80
LaGrResYel13	13.79	14.98	16.19	17.50	18.67	19.85	21.00	22.18	23.48	24.56
LaGrResYel16	569.05	619.08	670.67	722.26	775.97	825.44	877.03	928.62	982.90	1,031.80
LaGrResYel17	3.23	3.52	3.81	4.10	4.41	4.69	4.98	5.28	5.59	5.86
LaGrResYel18	549.80	598.15	647.99	697.84	749.73	797.53	847.37	897.22	949.66	996.91
LaGrResYel19	3.23	3.52	3.81	4.10	4.41	4.69	4.98	5.28	5.59	5.86
LaGrResYel2	19.41	19.33	19.28	19.25	19.16	19.10	19.02	18.97	18.94	18.82
LaGrResYel20	560.80	610.11	660.95	711.79	764.72	762.64	762.64	762.64	764.72	762.64
LaGrResYel3	9.40	9.36	9.34	9.33	9.28	9.25	9.21	9.19	9.18	9.12
LaGrResYel4	42.19	45.84	49.55	53.26	56.80	60.39	63.90	67.49	71.12	74.39
LaGrResYel5	24.56	26.68	28.84	31.00	33.06	35.15	37.19	39.28	41.39	43.30
LaGrResYel6	1,647.45	1,789.73	1,934.83	2,079.69	2,217.62	2,357.75	2,495.00	2,635.13	2,776.68	2,904.69
LaGrResYel7	27.86	30.27	32.72	35.17	37.50	39.87	42.19	44.56	46.96	49.12
LaGrResYel8	34.43	37.40	40.43	43.46	46.34	49.27	52.14	55.06	58.02	60.70
LaGrResYel9	33.58	36.48	39.43	42.39	45.20	48.05	50.85	53.71	56.59	59.20
MedGComRed2	4,458.32	4,850.33	5,254.53	5,658.72	6,079.53	6,467.11	6,467.11	6,467.11	6,484.83	6,467.11
MedGComYel10	77.58	84.40	84.40	84.40	84.63	84.40	84.40	84.40	84.63	84.40
MedGComYel11	2,644.74	2,877.29	3,117.06	3,356.84	3,606.46	3,596.61	3,596.61	3,596.61	3,606.46	3,596.61
MedGComYel12	85.51	93.03	100.79	108.54	116.61	124.04	131.80	139.55	147.70	155.05
MedGComYel13	132.24	143.86	155.85	167.84	180.32	179.83	179.83	179.83	180.32	179.83
MedGComYel14	102.00	110.95	110.11	109.90	109.52	109.14	108.71	108.52	108.30	107.68
MedGComYel15	911.55	991.71	991.71	991.71	994.42	991.71	991.71	991.71	994.42	991.71
MedGComYel16	911.55	991.71	991.71	991.71	994.42	991.71	991.71	991.71	994.42	991.71
MedGComYel17	447.84	487.22	527.82	568.42	610.69	609.03	609.03	609.03	610.69	609.03
MedGComYel18	447.84	487.22	527.82	568.42	610.69	609.03	609.03	609.03	610.69	609.03
MedGComYel19	645.76	702.54	761.08	819.63	880.58	878.17	878.17	878.17	880.58	878.17
MedGComYel20	2.79	3.03	3.27	3.51	3.75	3.98	4.21	4.45	4.69	4.91
MedGComYel9	77.58	84.40	84.40	84.40	84.63	84.40	84.40	84.40	84.63	84.40
MedGResRed1	3,083.74	3,074.75	3,051.53	3,045.54	3,035.05	3,024.57	3,012.58	3,007.34	3,001.35	2,984.12
MedGResRed2	5,295.05	5,760.64	6,240.69	6,720.74	6,739.16	6,720.74	6,720.74	6,720.74	6,739.16	6,720.74
MedGResYel10	74.11	80.61	86.67	93.15	99.47	105.73	111.89	118.27	124.59	130.39
MedGResYel11	8,996.89	9,786.18	10,521.63	11,308.74	12,074.78	12,835.27	13,583.44	14,357.43	15,124.87	15,829.53
MedGResYel12	6,997.58	7,611.47	8,183.49	8,795.68	9,391.50	9,982.99	10,564.90	11,166.89	11,763.79	12,311.86
MedGResYel13	58.60	63.96	68.77	73.91	78.92	83.89	88.78	93.84	98.86	103.46
MedGResYel14	4.02	4.37	4.73	5.10	5.48	5.46	5.46	5.46	5.48	5.46
MedGResYel15	1.46	1.59	1.72	1.85	1.99	1.99	1.99	1.99	1.99	1.99

Appendix 4.3 - SENDOUT® Selected Measures (Expected Case) in Dth

DSM Program	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029
MedGResYel16	3,084.11	3,355.29	3,634.90	3,914.50	4,205.60	4,473.72	4,753.33	5,032.93	5,327.10	5,592.15
MedGResYel17	17.53	19.07	20.66	22.25	23.90	25.43	27.02	28.60	30.28	31.78
MedGResYel18	2,979.82	3,241.83	3,511.98	3,782.13	4,063.38	4,322.43	4,592.59	4,862.74	5,146.95	5,403.04
MedGResYel19	17.53	19.07	20.66	22.25	23.90	25.43	27.02	28.60	30.28	31.78
MedGResYel20	3,039.41	3,306.66	3,582.22	3,857.77	4,144.65	4,133.33	4,133.33	4,133.33	4,144.65	4,133.33
MedGTComYel1	910.12	989.96	1,064.36	1,143.98	1,221.47	1,298.40	1,374.09	1,452.38	1,530.02	1,601.30
MedGTComYel2	51.13	50.99	50.99	50.99	51.13	50.99	50.99	50.99	51.13	50.99
MedGTComYel3	1,057.90	1,150.92	1,246.83	1,342.73	1,442.59	1,438.64	1,438.64	1,438.64	1,442.59	1,438.64
MedGTComYel4	714.08	776.87	776.87	776.87	779.00	776.87	776.87	776.87	779.00	776.87
MedGTComYel5	714.08	776.87	776.87	776.87	779.00	776.87	776.87	776.87	779.00	776.87
MedGTComYel6	582.72	633.96	686.79	739.62	794.62	792.45	792.45	792.45	794.62	792.45
MedGTComYel7	1,669.68	1,816.16	1,952.65	2,098.73	2,240.90	2,382.03	2,520.88	2,664.52	2,806.94	2,937.72
MedGTComYel8	164.35	178.80	193.70	208.60	224.11	238.40	253.30	268.20	283.87	298.00
MedGTNComMTA	18,701.37	20,345.76	22,041.24	22,041.24	22,101.62	22,041.24	22,041.24	22,041.24	22,101.62	22,041.24
MedGTNComMTW	10,868.88	11,822.40	12,710.88	13,661.76	13,614.72	13,567.68	13,513.92	13,490.40	13,463.52	13,386.24
MedGTNResMTA	3,846.64	4,184.87	4,184.87	4,184.87	4,196.33	4,184.87	4,184.87	4,184.87	4,196.33	4,184.87
MedGTNResMTW	29,997.70	32,629.38	35,081.55	37,705.95	40,260.13	42,795.76	45,290.33	47,871.00	50,429.82	52,779.32
MedGTResYel1	582.90	581.20	576.82	575.68	573.70	571.72	569.45	568.46	567.33	564.07
MedGTResYel2	82.29	82.05	81.43	81.27	80.99	80.71	80.39	80.25	80.09	79.63
MedGTResYel3	39.97	39.85	39.56	39.48	39.34	39.21	39.05	38.98	38.91	38.68
MedGTResYel4	178.11	193.73	208.29	223.88	239.04	254.10	268.91	284.23	299.42	313.37
MedGTResYel5	103.67	112.76	121.24	130.31	139.13	147.90	156.52	165.43	174.28	182.40
MedGTResYel6	6,954.21	7,564.30	8,132.78	8,741.18	9,333.30	9,921.12	10,499.42	11,097.69	11,690.89	12,235.56
MedGTResYel7	117.61	127.92	137.54	147.83	157.84	167.78	177.56	187.68	197.71	206.92
MedGTResYel8	145.32	158.06	169.94	182.66	195.03	207.31	219.40	231.90	244.29	255.68
MedGTResYel9	141.74	154.17	165.76	178.16	190.23	202.21	213.99	226.19	238.28	249.38
MedNComRed2	2,003.01	2,179.14	2,360.73	2,542.32	2,731.38	2,905.51	2,905.51	2,905.51	2,913.47	2,905.51
MedNComYel10	34.85	37.92	37.92	37.92	38.02	37.92	37.92	37.92	38.02	37.92
MedNComYel11	1,188.22	1,292.69	1,400.42	1,508.14	1,620.30	1,615.87	1,615.87	1,615.87	1,620.30	1,615.87
MedNComYel12	38.42	41.80	45.28	48.76	52.39	55.73	59.21	62.70	66.36	69.66
MedNComYel13	59.41	64.63	70.02	75.41	81.01	80.79	80.79	80.79	81.01	80.79
MedNComYel14	45.67	49.68	49.31	49.22	49.05	48.88	48.68	48.60	48.50	48.22
MedNComYel15	409.54	445.55	445.55	445.55	446.77	445.55	445.55	445.55	446.77	445.55
MedNComYel16	409.54	445.55	445.55	445.55	446.77	445.55	445.55	445.55	446.77	445.55
MedNComYel17	201.20	218.90	237.14	255.38	274.37	273.62	273.62	273.62	274.37	273.62
MedNComYel18	201.20	218.90	237.14	255.38	274.37	273.62	273.62	273.62	274.37	273.62
MedNComYel19	290.12	315.63	341.94	368.24	395.62	394.54	394.54	394.54	395.62	394.54
MedNComYel20	1.11	1.20	1.30	1.50	1.60	1.70	1.80	1.90	2.11	2.21
MedNComYel9	34.85	37.92	37.92	37.92	38.02	37.92	37.92	37.92	38.02	37.92
MedNResRed1	1,385.45	1,381.41	1,370.98	1,368.29	1,363.57	1,358.86	1,353.48	1,351.12	1,348.43	1,340.69
MedNResRed2	2,378.94	2,588.11	2,803.79	3,019.46	3,027.74	3,019.46	3,019.46	3,019.46	3,027.74	3,019.46
MedNResYel10	33.18	36.09	38.81	41.72	44.54	47.35	50.11	52.96	55.79	58.49
MedNResYel11	4,042.08	4,396.69	4,727.11	5,080.74	5,424.90	5,766.57	6,102.70	6,450.44	6,795.23	7,111.82
MedNResYel12	3,143.84	3,419.65	3,676.64	3,951.68	4,219.37	4,485.11	4,746.55	5,017.01	5,285.18	5,531.41
MedNResYel13	26.33	28.64	30.80	33.10	35.34	37.57	39.76	42.02	44.27	46.33
MedNResYel14	1.80	1.96	2.13	2.29	2.46	2.45	2.45	2.45	2.46	2.45
MedNResYel16	1,385.61	1,507.45	1,633.07	1,758.69	1,889.47	2,009.93	2,135.55	2,261.17	2,393.33	2,512.42
MedNResYel17	7.88	8.57	9.28	10.00	10.74	11.42	12.14	12.85	13.60	14.28
MedNResYel18	1,338.76	1,456.47	1,577.85	1,699.22	1,825.58	1,941.96	2,063.34	2,184.71	2,312.40	2,427.45
MedNResYel19	7.88	8.57	9.28	10.00	10.74	11.42	12.14	12.85	13.60	14.28
MedNResYel20	1,365.53	1,485.60	1,609.40	1,733.20	1,862.09	1,857.00	1,857.00	1,857.00	1,862.09	1,857.00
MedNWComYel1	408.89	444.76	478.19	513.96	548.78	583.34	617.34	652.52	687.40	719.42
MedNWComYel2	22.97	22.91	22.91	22.91	22.97	22.91	22.91	22.91	22.97	22.91
MedNWComYel3	475.29	517.08	560.17	603.26	648.12	646.35	646.35	646.35	648.12	646.35
MedNWComYel4	320.82	349.03	349.03	349.03	349.98	349.03	349.03	349.03	349.98	349.03
MedNWComYel5	320.82	349.03	349.03	349.03	349.98	349.03	349.03	349.03	349.98	349.03

Appendix 4.3 - SENDOUT® Selected Measures (Expected Case) in Dth

DSM Program	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029
MedNWComYel6	261.80	284.82	308.56	332.29	357.01	356.03	356.03	356.03	357.01	356.03
MedNWComYel7	750.15	815.96	877.28	942.91	1,006.78	1,070.19	1,132.57	1,197.10	1,261.09	1,319.84
MedNWComYel8	73.84	80.33	87.02	93.72	100.69	107.11	113.80	120.49	127.54	133.88
MedNWPComMTA	8,402.07	9,140.85	9,902.58	9,902.58	9,929.71	9,902.58	9,902.58	9,902.58	9,929.71	9,902.58
MedNWPComMTW	4,981.57	5,418.60	5,825.82	6,261.64	6,240.08	6,218.52	6,193.88	6,183.10	6,170.78	6,135.36
MedNWPResMTA	1,728.20	1,880.16	1,880.16	1,880.16	1,885.31	1,880.16	1,880.16	1,880.16	1,885.31	1,880.16
MedNWPResMTW	13,477.23	14,659.58	15,761.28	16,940.35	18,087.88	19,227.08	20,347.83	21,507.26	22,656.87	23,712.45
MedNWResYel1	261.88	261.12	259.15	258.64	257.75	256.86	255.84	255.40	254.89	253.42
MedNWResYel2	36.85	36.74	36.47	36.40	36.27	36.15	36.00	35.94	35.87	35.66
MedNWResYel3	17.96	17.90	17.77	17.74	17.68	17.61	17.54	17.51	17.48	17.38
MedNWResYel4	80.02	87.04	93.58	100.58	107.40	114.16	120.81	127.70	134.52	140.79
MedNWResYel5	46.42	50.49	54.29	58.46	62.42	66.35	70.32	74.33	78.30	81.95
MedNWResYel6	3,124.36	3,398.45	3,653.86	3,927.19	4,193.22	4,457.32	4,717.13	4,985.92	5,252.43	5,497.13
MedNWResYel7	52.66	57.28	61.70	66.32	70.91	75.38	79.77	84.32	88.83	92.96
MedNWResYel8	65.29	71.01	76.35	82.06	87.62	93.14	98.57	104.19	109.76	114.87
MedNWResYel9	63.68	69.27	74.47	80.04	85.46	90.85	96.14	101.62	107.05	112.04
RosComMTA	7,649.40	8,322.00	9,015.50	9,015.50	9,040.20	9,015.50	9,015.50	9,015.50	9,040.20	9,015.50
RosComMTW	4,423.76	4,798.20	5,165.16	5,542.46	5,510.12	5,477.78	5,460.84	5,390.00	5,357.66	5,322.24
RosComRed2	1,913.58	2,081.84	2,255.32	2,428.81	2,609.42	2,775.78	2,775.78	2,775.78	2,783.39	2,775.78
RosComYel1	391.37	424.49	456.96	490.34	522.30	553.85	586.64	613.09	643.27	672.65
RosComYel10	37.57	40.87	40.87	40.87	40.98	40.87	40.87	40.87	40.98	40.87
RosComYel11	1,280.70	1,393.31	1,509.41	1,625.52	1,746.40	1,741.63	1,741.63	1,741.63	1,746.40	1,741.63
RosComYel12	41.41	45.05	48.80	52.56	56.47	60.07	63.82	67.58	71.52	75.08
RosComYel13	64.03	69.67	75.47	81.28	87.32	87.08	87.08	87.08	87.32	87.08
RosComYel14	43.79	47.50	47.20	47.03	46.75	46.48	46.33	45.74	45.47	45.17
RosComYel15	441.41	480.23	480.23	480.23	481.54	480.23	480.23	480.23	481.54	480.23
RosComYel16	441.41	480.23	480.23	480.23	481.54	480.23	480.23	480.23	481.54	480.23
RosComYel17	216.86	235.93	255.59	275.26	295.72	294.92	294.92	294.92	295.72	294.92
RosComYel18	216.86	235.93	255.59	275.26	295.72	294.92	294.92	294.92	295.72	294.92
RosComYel19	312.70	340.20	368.55	396.90	426.41	425.25	425.25	425.25	426.41	425.25
RosComYel2	24.76	24.69	24.69	24.69	24.76	24.69	24.69	24.69	24.76	24.69
RosComYel20	1.04	1.13	1.22	1.41	1.50	1.59	1.68	1.77	1.96	2.05
RosComYel3	512.28	557.32	603.77	650.21	698.56	696.65	696.65	696.65	698.56	696.65
RosComYel4	345.79	376.19	376.19	376.19	377.22	376.19	376.19	376.19	377.22	376.19
RosComYel5	345.79	376.19	376.19	376.19	377.22	376.19	376.19	376.19	377.22	376.19
RosComYel6	282.18	306.99	332.57	358.16	384.79	383.74	383.74	383.74	384.79	383.74
RosComYel7	718.00	778.77	838.33	899.57	958.20	1,016.08	1,076.25	1,124.77	1,180.14	1,234.04
RosComYel8	79.58	86.58	93.80	101.01	108.52	115.44	122.66	129.87	137.46	144.30
RosComYel9	37.57	40.87	40.87	40.87	40.98	40.87	40.87	40.87	40.98	40.87
RosResMTA	1,278.17	1,390.55	1,390.55	1,390.55	1,394.36	1,390.55	1,390.55	1,390.55	1,394.36	1,390.55
RosResMTW	9,651.84	10,468.80	11,269.44	12,092.64	12,880.80	13,658.88	14,467.68	15,120.00	15,864.24	16,588.80
RosResRed1	1,026.59	1,020.69	1,014.23	1,010.58	1,004.69	998.79	995.70	982.79	976.89	970.43
RosResRed2	1,759.45	1,914.15	2,073.66	2,233.18	2,239.30	2,233.18	2,233.18	2,233.18	2,239.30	2,233.18
RosResYel1	194.05	192.94	191.72	191.03	189.91	188.80	188.21	185.77	184.66	183.44
RosResYel10	24.56	26.64	28.67	30.77	32.87	34.86	36.92	38.59	40.49	42.34
RosResYel11	2,995.10	3,248.62	3,497.07	3,752.52	3,997.09	4,238.54	4,489.52	4,691.95	4,922.90	5,147.74
RosResYel12	2,329.52	2,526.70	2,719.94	2,918.62	3,108.85	3,296.64	3,491.85	3,649.29	3,828.92	4,003.80
RosResYel13	19.48	21.13	22.75	24.41	26.00	27.57	29.20	30.53	32.04	33.50
RosResYel14	1.51	1.64	1.77	1.91	2.05	2.05	2.05	2.05	2.05	2.05
RosResYel16	1,156.18	1,257.84	1,362.66	1,467.48	1,576.60	1,677.11	1,781.93	1,886.75	1,997.03	2,096.39
RosResYel17	6.57	7.15	7.74	8.34	8.96	9.53	10.13	10.72	11.35	11.91
RosResYel18	1,117.08	1,215.30	1,316.58	1,417.85	1,523.29	1,620.40	1,721.68	1,822.95	1,929.50	2,025.50
RosResYel19	6.57	7.15	7.74	8.34	8.96	9.53	10.13	10.72	11.35	11.91
RosResYel2	27.27	27.11	26.94	26.84	26.68	26.53	26.44	26.11	25.96	25.78
RosResYel20	1,139.42	1,239.61	1,342.91	1,446.21	1,553.75	1,549.51	1,549.51	1,549.51	1,553.75	1,549.51
RosResYel3	13.29	13.21	13.13	13.08	13.00	12.93	12.89	12.73	12.65	12.57

Appendix 4.3 - SENDOUT® Selected Measures (Expected Case) in Dth

DSM Program	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029
RosResYel4	59.20	64.31	69.23	74.29	79.13	83.91	88.88	92.89	97.46	101.91
RosResYel5	34.45	37.37	40.23	43.17	45.98	48.76	51.64	53.99	56.64	59.23
RosResYel6	420.92	418.51	415.86	414.36	411.94	409.53	408.26	402.96	400.55	397.90
RosResYel7	39.09	42.40	45.64	48.97	52.16	55.31	58.59	61.25	64.26	67.19
RosResYel8	48.30	52.38	56.39	60.61	64.56	68.46	72.51	75.78	79.51	83.15
RosResYel9	47.11	51.09	55.00	59.02	62.97	66.77	70.73	73.92	77.56	81.10
SpoBComYel10	2,044.76	2,224.55	2,409.93	2,595.31	2,788.30	2,966.06	3,151.44	3,336.82	3,531.85	3,707.58
SpoBComYel11	2,250.64	2,448.54	2,652.59	2,856.63	3,069.06	3,060.68	3,060.68	3,060.68	3,069.06	3,060.68
SpoBComYel12	985.71	1,072.38	1,161.74	1,251.11	1,344.15	1,340.47	1,340.47	1,340.47	1,344.15	1,340.47
SpoBoComMTA	5,412.06	5,887.93	6,378.60	6,869.26	7,380.08	7,850.58	7,850.58	7,850.58	7,872.09	7,850.58
SpoBoComMTW	11,686.65	12,697.43	13,708.20	14,720.97	15,735.22	16,731.26	17,754.45	18,712.42	19,698.53	20,679.01
SpoBoComRed1	17,132.13	18,613.88	20,095.64	21,580.30	23,067.15	24,527.31	26,027.26	27,431.60	28,877.19	30,314.54
SpoBoComRed2	1,438.92	1,565.44	1,695.90	1,826.35	1,962.16	2,087.26	2,217.71	2,217.71	2,223.79	2,217.71
SpoBoComYel1	133.22	144.94	157.01	169.09	181.67	181.17	181.17	181.17	181.67	181.17
SpoBoComYel2	195.12	194.59	194.59	194.59	195.12	194.59	194.59	194.59	195.12	194.59
SpoBoComYel3	4,150.07	4,514.98	4,891.22	5,267.47	5,659.18	5,643.72	5,643.72	5,643.72	5,659.18	5,643.72
SpoBoComYel4	1,090.00	1,185.84	1,284.66	1,383.48	1,486.36	1,581.12	1,679.94	1,778.76	1,882.72	1,976.40
SpoBoComYel5	444.75	483.85	524.17	564.49	606.47	604.81	604.81	604.81	606.47	604.81
SpoBoComYel6	686.41	745.78	805.15	864.63	924.20	982.70	1,042.80	1,099.07	1,156.99	1,214.57
SpoBoComYel7	598.83	651.48	705.77	760.06	816.58	814.35	814.35	814.35	816.58	814.35
SpoBoComYel8	238.09	259.02	280.61	302.19	324.66	323.77	323.77	323.77	324.66	323.77
SpoBoComYel9	1,624.90	1,767.78	1,915.10	2,062.41	2,215.78	2,209.72	2,209.72	2,209.72	2,215.78	2,209.72
SpoBoResMTA	139,240.87	138,860.43	138,860.43	138,860.43	139,240.87	138,860.43	138,860.43	138,860.43	139,240.87	138,860.43
SpoBoResMTW	1,115,448.41	1,211,923.20	1,308,398.00	1,405,062.39	1,501,869.01	1,596,937.60	1,694,597.42	1,786,032.00	1,880,152.56	1,973,736.00
SpoBoResRed1	380,384.76	413,284.12	446,183.50	479,147.51	512,160.03	544,579.85	577,883.32	609,063.90	607,415.16	605,766.42
SpoBoResRed2	30,426.04	33,101.35	35,859.80	38,618.25	41,490.05	41,376.69	41,376.69	41,376.69	41,490.05	41,376.69
SpoBoResYel1	1,135.94	1,131.33	1,127.44	1,124.25	1,121.60	1,118.06	1,116.64	1,111.51	1,108.50	1,105.49
SpoBoResYel2	20,640.04	22,425.19	24,210.34	25,999.00	27,790.29	29,549.42	31,356.50	33,048.39	34,789.98	36,521.63
SpoBoResYel3	166.07	165.40	164.83	164.36	163.98	163.46	163.25	162.50	162.06	161.62
SpoBoResYel4	1,972.94	2,143.58	2,314.22	2,485.19	2,656.42	2,824.57	2,997.30	3,159.03	3,325.50	3,491.03
SpoBoResYel5	394.59	428.72	462.84	497.04	531.28	564.91	599.46	631.81	665.10	698.21
SpoBoResYel6	1,972.94	2,143.58	2,314.22	2,485.19	2,656.42	2,824.57	2,997.30	3,159.03	3,325.50	3,491.03
SpoBoResYel7	394.59	428.72	462.84	497.04	531.28	564.91	599.46	631.81	665.10	698.21
SpoBoResYel8	737.57	801.36	865.15	929.07	993.08	1,055.94	1,120.52	1,180.98	1,243.22	1,305.10
SpoBoResYel9	748.44	813.17	877.90	942.76	1,007.72	1,071.51	1,137.03	1,198.38	1,261.54	1,324.33
SpoBResYel10	232.50	252.61	272.72	292.87	313.05	332.86	353.22	372.28	391.89	411.40
SpoBResYel11	16,304.16	17,714.30	19,124.44	20,537.35	21,952.34	23,341.93	24,769.39	26,105.87	27,481.60	28,849.47
SpoBResYel12	23,250.13	25,261.03	27,271.93	29,286.78	31,304.59	33,286.18	35,321.77	37,227.62	39,189.44	41,140.07
SpoBResYel13	153.45	166.72	179.99	193.29	206.61	219.69	233.12	245.70	258.65	271.52
SpoBResYel14	10,481.24	11,387.76	12,294.28	13,202.58	14,112.22	15,005.53	15,923.18	16,782.34	17,666.74	18,546.09
SpoBResYel15	75,563.53	82,099.00	88,634.47	95,182.78	101,740.73	108,180.94	114,796.68	120,990.71	127,366.70	133,706.29
SpoBResYel16	192.06	208.68	225.29	241.93	258.60	274.97	291.79	307.53	323.74	339.85
SpoBResYel17	15.27	16.61	17.99	19.38	20.82	20.76	20.76	20.76	20.82	20.76
SpoBResYel18	5.55	6.04	6.54	7.05	7.57	7.55	7.55	7.55	7.57	7.55
SpoBResYel19	91.34	99.24	98.90	98.62	98.39	98.08	97.95	97.50	97.24	96.97
SpoBResYel20	4,642.79	5,051.02	5,471.94	5,892.86	6,331.07	6,734.69	7,155.61	7,576.53	8,019.36	8,418.37
SpoBResYel21	60.69	66.03	71.53	77.03	82.76	88.04	93.54	99.04	104.83	110.04
SpoBResYel22	488.49	531.44	575.73	620.02	666.13	708.59	752.88	797.17	843.76	885.74
SpoBResYel23	60.69	66.03	71.53	77.03	82.76	88.04	93.54	99.04	104.83	110.04
SpoBResYel24	11,550.35	12,565.95	13,613.11	14,660.28	15,750.47	15,707.44	15,707.44	15,707.44	15,750.47	15,707.44
SpoBResYel25	1,824.51	1,982.31	2,140.12	2,298.23	2,456.57	2,448.82	2,445.72	2,434.48	2,427.89	2,421.30
SpoGComYel10	268.16	291.74	316.06	340.37	365.68	388.99	413.30	437.62	463.19	486.24
SpoGComYel11	295.17	321.12	347.88	374.64	402.50	428.16	454.92	481.68	509.83	535.20
SpoGComYel12	129.27	140.64	152.36	164.08	176.28	175.80	175.80	175.80	176.28	175.80
SpoGResYel10	30.49	33.13	35.77	38.41	41.06	43.65	46.32	48.82	51.40	53.95
SpoGResYel11	2,138.25	2,323.19	2,508.12	2,693.42	2,879.00	3,061.24	3,248.45	3,423.72	3,604.14	3,783.54

Appendix 4.3 - SENDOUT® Selected Measures (Expected Case) in Dth

DSM Program	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029
SpoGResYel12	3,049.20	3,312.92	3,576.65	3,840.89	4,105.52	4,365.40	4,632.36	4,882.31	5,139.60	5,395.42
SpoGResYel13	20.12	21.87	23.61	25.35	27.10	28.81	30.57	32.22	33.92	35.61
SpoGResYel14	1,374.59	1,493.48	1,612.36	1,731.49	1,850.78	1,967.94	2,088.29	2,200.96	2,316.95	2,432.27
SpoGResYel15	9,909.97	10,767.08	11,624.19	12,482.99	13,343.05	14,187.66	15,055.30	15,867.63	16,703.83	17,535.25
SpoGResYel16	25.19	27.37	29.55	31.73	33.91	36.06	38.27	40.33	42.46	44.57
SpoGResYel17	2.00	2.18	2.36	2.54	2.73	2.72	2.72	2.72	2.73	2.72
SpoGResYel19	11.86	12.88	12.84	12.80	12.77	12.73	12.72	12.66	12.63	12.59
SpoGResYel20	608.89	662.43	717.63	772.83	830.30	883.24	938.44	993.64	1,051.72	1,104.05
SpoGResYel21	7.96	8.66	9.38	10.10	10.85	11.55	12.27	12.99	13.75	14.43
SpoGResYel22	67.65	73.60	79.74	85.87	92.26	98.14	104.27	110.40	116.86	122.67
SpoGResYel23	7.96	8.66	9.38	10.10	10.85	11.55	12.27	12.99	13.75	14.43
SpoGResYel24	1,514.80	1,647.99	1,785.33	1,922.66	2,065.64	2,059.99	2,059.99	2,059.99	2,065.64	2,059.99
SpoGResYel25	239.28	259.98	280.67	301.41	322.17	321.16	320.75	319.28	318.41	317.55
SpoGTComRed1	2,246.84	2,441.17	2,635.49	2,830.20	3,025.20	3,216.70	3,413.41	3,597.59	3,787.17	3,975.68
SpoGTComRed2	188.71	205.30	222.41	239.52	257.33	273.74	290.85	290.85	291.64	290.85
SpoGTComYel1	17.47	19.01	20.59	22.18	23.83	23.76	23.76	23.76	23.83	23.76
SpoGTComYel2	25.59	25.52	25.52	25.52	25.59	25.52	25.52	25.52	25.59	25.52
SpoGTComYel3	544.27	592.13	641.47	690.82	742.19	740.16	740.16	740.16	742.19	740.16
SpoGTComYel4	142.95	155.52	168.48	181.44	194.93	207.36	220.32	233.28	246.91	259.20
SpoGTComYel5	58.33	63.46	68.74	74.03	79.54	79.32	79.32	79.32	79.54	79.32
SpoGTComYel6	90.02	97.81	105.59	113.39	121.21	128.88	136.76	144.14	151.74	159.29
SpoGTComYel7	78.53	85.44	92.56	99.68	107.09	106.80	106.80	106.80	107.09	106.80
SpoGTComYel8	26.47	28.80	31.20	33.60	36.10	36.00	36.00	36.00	36.10	36.00
SpoGTComYel9	213.10	231.84	251.16	270.48	290.59	289.80	289.80	289.80	290.59	289.80
SpoGTNComMTA	709.78	772.19	836.54	900.89	967.88	1,029.58	1,029.58	1,029.58	1,032.40	1,029.58
SpoGTNComMTW	1,523.56	1,655.34	1,787.11	1,919.14	2,051.37	2,181.22	2,314.61	2,439.50	2,568.05	2,695.88
SpoGTNResMTA	18,261.10	18,211.20	18,211.20	18,211.20	18,261.10	18,211.20	18,211.20	18,211.20	18,261.10	18,211.20
SpoGTNResMTW	146,843.84	159,544.32	172,244.80	184,970.24	197,714.40	210,229.76	223,086.24	235,123.20	247,513.76	259,833.60
SpoGTResRed1	49,886.53	54,201.20	58,515.87	62,839.02	67,168.53	71,420.31	75,787.98	79,877.23	79,661.00	79,444.78
SpoGTResRed2	3,990.30	4,341.16	4,702.92	5,064.69	5,441.32	5,426.45	5,426.45	5,426.45	5,441.32	5,426.45
SpoGTResYel1	148.98	148.37	147.86	147.44	147.09	146.63	146.45	145.77	145.38	144.98
SpoGTResYel2	2,706.89	2,941.01	3,175.13	3,409.71	3,644.63	3,875.33	4,112.33	4,334.21	4,562.62	4,789.72
SpoGTResYel3	21.78	21.69	21.62	21.56	21.51	21.44	21.41	21.31	21.25	21.20
SpoGTResYel4	258.75	281.13	303.50	325.93	348.38	370.44	393.09	414.30	436.13	457.84
SpoGTResYel5	51.75	56.23	60.70	65.19	69.68	74.09	78.62	82.86	87.23	91.57
SpoGTResYel6	258.75	281.13	303.50	325.93	348.38	370.44	393.09	414.30	436.13	457.84
SpoGTResYel7	51.75	56.23	60.70	65.19	69.68	74.09	78.62	82.86	87.23	91.57
SpoGTResYel8	96.73	105.10	113.46	121.85	130.24	138.48	146.95	154.88	163.04	171.16
SpoGTResYel9	98.16	106.65	115.13	123.64	132.16	140.53	149.12	157.17	165.45	173.68
SpoNComYel10	1,039.14	1,130.51	1,224.72	1,318.93	1,417.01	1,507.34	1,601.55	1,695.76	1,794.88	1,884.18
SpoNComYel11	1,143.77	1,244.34	1,348.04	1,451.73	1,559.69	1,555.43	1,555.43	1,555.43	1,559.69	1,555.43
SpoNComYel12	500.93	544.98	590.40	635.81	683.09	681.22	681.22	681.22	683.09	681.22
SpoNResYel10	118.16	128.38	138.60	148.83	159.09	169.16	179.50	189.19	199.16	209.07
SpoNResYel11	8,285.72	9,002.35	9,718.98	10,437.02	11,156.11	11,862.29	12,587.73	13,266.92	13,966.06	14,661.21
SpoNResYel12	11,815.64	12,837.57	13,859.50	14,883.44	15,908.89	16,915.93	17,950.41	18,918.95	19,915.95	20,907.25
SpoNResYel13	77.98	84.73	91.47	98.23	105.00	111.65	118.47	124.87	131.45	137.99
SpoNResYel14	5,326.53	5,787.22	6,247.91	6,709.51	7,171.78	7,625.76	8,092.11	8,528.73	8,978.18	9,425.06
SpoNResYel15	38,401.14	41,722.44	45,043.75	48,371.58	51,704.30	54,977.20	58,339.30	61,487.08	64,727.34	67,949.10
SpoNResYel16	97.61	106.05	114.49	122.95	131.42	139.74	148.28	156.29	164.52	172.71
SpoNResYel17	7.76	8.44	9.14	9.85	10.58	10.55	10.55	10.55	10.58	10.55
SpoNResYel18	2.82	3.07	3.32	3.58	3.85	3.84	3.84	3.84	3.85	3.84
SpoNResYel19	46.42	50.43	50.26	50.12	50.00	49.84	49.78	49.55	49.42	49.28
SpoNResYel20	2,359.45	2,566.91	2,780.82	2,994.73	3,217.43	3,422.55	3,636.46	3,850.37	4,075.41	4,278.19
SpoNResYel21	30.84	33.55	36.35	39.15	42.06	44.74	47.54	50.33	53.27	55.92
SpoNResYel22	262.16	285.21	308.98	332.75	357.49	380.28	404.05	427.82	452.82	475.35
SpoNResYel23	30.84	33.55	36.35	39.15	42.06	44.74	47.54	50.33	53.27	55.92

Appendix 4.3 - SENDOUT® Selected Measures (Expected Case) in Dth

DSM Program	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029
SpoNResYel24	5,869.85	6,385.98	6,918.14	7,450.30	8,004.34	7,982.47	7,982.47	7,982.47	8,004.34	7,982.47
SpoNResYel25	927.21	1,007.41	1,087.60	1,167.95	1,248.42	1,244.48	1,242.91	1,237.19	1,233.84	1,230.49
SpoNWComRed1	8,706.49	9,459.51	10,212.54	10,967.04	11,722.65	12,464.70	13,226.97	13,940.65	14,675.30	15,405.75
SpoNWComRed2	731.25	795.55	861.85	928.14	997.17	1,060.74	1,127.03	1,127.03	1,130.12	1,127.03
SpoNWComYel1	67.70	73.66	79.79	85.93	92.32	92.07	92.07	92.07	92.32	92.07
SpoNWComYel2	99.16	98.89	98.89	98.89	99.16	98.89	98.89	98.89	99.16	98.89
SpoNWComYel3	2,109.05	2,294.50	2,485.70	2,676.91	2,875.98	2,868.12	2,868.12	2,868.12	2,875.98	2,868.12
SpoNWComYel4	553.93	602.64	652.86	703.08	755.36	803.52	853.74	903.96	956.79	1,004.40
SpoNWComYel5	226.02	245.89	266.38	286.87	308.21	307.36	307.36	307.36	308.21	307.36
SpoNWComYel6	348.83	379.00	409.17	439.40	469.68	499.41	529.95	558.54	587.98	617.24
SpoNWComYel7	304.32	331.08	358.67	386.26	414.98	413.85	413.85	413.85	414.98	413.85
SpoNwComYel8	102.58	111.60	120.90	130.20	139.88	139.50	139.50	139.50	139.88	139.50
SpoNWComYel9	825.77	898.38	973.24	1,048.11	1,126.05	1,122.98	1,122.98	1,122.98	1,126.05	1,122.98
SpoNWPComMTA	2,750.39	2,992.23	3,241.58	3,490.93	3,750.53	3,989.64	3,989.64	3,989.64	4,000.57	3,989.64
SpoNWPComMTW	5,903.81	6,414.43	6,925.04	7,436.67	7,949.04	8,452.22	8,969.11	9,453.05	9,951.21	10,446.52
SpoNWPResMTA	70,761.76	70,568.42	70,568.42	70,568.42	70,761.76	70,568.42	70,568.42	70,568.42	70,761.76	70,568.42
SpoNWPResMTW	569,725.86	619,001.29	668,276.70	717,648.96	767,093.85	815,651.02	865,531.71	912,232.80	960,305.81	1,008,104.40
SpoNWResRed1	193,310.29	210,029.64	226,748.99	243,501.19	260,278.05	276,753.70	293,678.41	309,524.28	308,686.40	307,848.51
SpoNWResRed2	15,462.41	16,822.00	18,223.83	19,625.67	21,085.11	21,027.50	21,027.50	21,027.50	21,085.11	21,027.50
SpoNWResYel1	577.28	574.94	572.96	571.34	569.99	568.19	567.47	564.87	563.34	561.81
SpoNWResYel2	10,489.20	11,396.41	12,303.62	13,212.61	14,122.94	15,016.92	15,935.27	16,795.08	17,680.15	18,560.17
SpoNWResYel3	84.40	84.06	83.77	83.53	83.33	83.07	82.96	82.58	82.36	82.14
SpoNWResYel4	1,002.64	1,089.36	1,176.08	1,262.97	1,349.98	1,435.44	1,523.22	1,605.41	1,690.01	1,774.13
SpoNWResYel5	200.53	217.87	235.22	252.59	270.00	287.09	304.64	321.08	338.00	354.83
SpoNWResYel6	1,002.64	1,089.36	1,176.08	1,262.97	1,349.98	1,435.44	1,523.22	1,605.41	1,690.01	1,774.13
SpoNWResYel7	200.53	217.87	235.22	252.59	270.00	287.09	304.64	321.08	338.00	354.83
SpoNWResYel8	374.83	407.25	439.67	472.15	504.68	536.63	569.44	600.17	631.80	663.25
SpoNWResYel9	380.35	413.25	446.15	479.11	512.12	544.54	577.84	609.01	641.11	673.02
Total	3,414,355.93	3,688,693.70	3,962,004.98	4,231,861.99	4,499,252.80	4,749,258.20	5,005,156.30	5,245,464.03	5,438,669.25	5,627,038.16
WA/ID	3,099,579.96	3,347,233.35	3,595,802.18	3,844,841.18	4,095,270.66	4,331,295.65	4,573,965.49	4,801,026.28	4,980,467.56	5,156,772.22
OR	314,775.97	341,460.35	366,202.80	387,020.81	403,982.14	417,962.55	431,190.81	444,437.75	458,201.69	470,265.94

Appendix 4.3 - SENDOUT® Selected Measures (High Growth Low Price Case) in Dth

DSM Program	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
KlaComRed2	227.31	454.62	683.79	909.23	1,136.54	1,363.85	1,595.52	1,818.47	2,045.78	2,273.09
KlaComYel10	2.60	5.20	7.81	10.39	12.99	15.59	18.23	20.78	23.38	25.98
KlaComYel11	88.55	177.11	266.39	354.21	442.77	531.32	621.57	708.43	796.98	885.53
KlaComYel12	2.86	5.73	8.61	11.45	14.32	17.18	20.10	22.91	25.77	28.63
KlaComYel13	4.43	8.86	13.32	17.71	22.14	26.57	31.08	35.42	39.85	44.28
KlaComYel14	5.50	11.01	16.59	22.05	27.27	32.63	37.92	43.20	48.42	53.51
KlaComYel15	30.52	61.04	91.82	122.09	152.61	183.13	214.24	244.17	274.69	305.21
KlaComYel16	30.52	61.04	91.82	122.09	152.61	183.13	214.24	244.17	274.69	305.21
KlaComYel17	15.00	29.99	45.11	59.98	74.98	89.97	105.25	119.96	134.96	149.95
KlaComYel18	15.00	29.99	45.11	59.98	74.98	89.97	105.25	119.96	134.96	149.95
KlaComYel19	21.62	43.24	65.04	86.49	108.11	129.73	151.77	172.97	194.60	216.22
KlaComYel20	-	-	-	0.11	0.37	0.66	0.76	0.98	1.10	1.32
KlaComYel9	2.60	5.20	7.81	10.39	12.99	15.59	18.23	20.78	23.38	25.98
KlamComMTA	953.49	1,906.99	2,868.32	3,813.98	4,767.47	5,720.97	6,692.75	7,627.96	8,581.45	9,534.94
KlamComMTW	609.70	1,219.40	1,825.01	2,412.59	2,983.44	3,569.20	4,148.78	4,725.45	5,297.29	5,854.03
KlamComYel1	49.73	99.46	148.85	196.77	243.33	291.11	338.38	385.41	432.06	477.46
KlamComYel2	1.71	3.42	5.15	6.85	8.56	10.27	12.02	13.70	15.41	17.12
KlamComYel3	35.42	70.84	106.56	141.69	177.11	212.53	248.63	283.37	318.79	354.21
KlamComYel4	23.91	47.82	71.92	95.64	119.55	143.46	167.82	191.28	215.18	239.09
KlamComYel5	23.91	47.82	71.92	95.64	119.55	143.46	167.82	191.28	215.18	239.09
KlamComYel6	19.51	39.02	58.69	78.05	97.56	117.07	136.95	156.09	175.60	195.11
KlamComYel7	91.23	182.46	273.08	361.00	446.42	534.06	620.79	707.08	792.64	875.95
KlamComYel8	5.50	11.01	16.55	22.01	27.51	33.02	38.63	44.02	49.53	55.03
KlamResMTA	211.52	423.03	636.29	846.07	1,057.58	1,269.10	1,484.68	1,692.14	1,903.65	2,115.17
KlamResMTW	1,762.10	3,524.20	5,274.47	6,972.66	8,622.46	10,315.39	11,990.43	13,657.06	15,309.76	16,918.79
KlamResYel1	37.78	75.57	113.10	149.51	184.89	221.19	257.11	292.85	328.28	362.79
KlamResYel2	5.27	10.53	15.88	21.11	26.10	31.23	36.30	41.34	46.35	51.22
KlaResRed1	663.30	1,326.60	1,985.45	1,968.52	1,947.43	1,941.49	1,934.36	1,927.83	1,921.00	1,910.60
KlaResRed2	291.16	582.32	875.88	1,164.65	1,455.81	1,746.97	2,043.71	2,329.29	2,620.45	2,911.61
KlaResYel10	4.31	8.62	12.91	17.19	21.37	25.57	29.72	33.85	37.94	41.93
KlaResYel11	530.17	1,060.34	1,586.95	2,097.90	2,594.28	3,103.64	3,607.62	4,109.06	4,606.32	5,090.43
KlaResYel12	412.36	824.71	1,234.30	1,631.70	2,017.77	2,413.94	2,805.92	3,195.94	3,582.69	3,959.23
KlaResYel13	3.24	6.84	10.24	13.54	16.86	20.29	23.58	26.86	30.11	33.27
KlaResYel14	-	-	-	-	-	-	-	-	1.31	1.45
KlaResYel16	111.37	222.74	335.03	445.48	556.85	668.22	781.73	890.97	1,002.34	1,113.71
KlaResYel17	-	1.17	1.90	2.53	3.16	3.80	4.44	5.06	5.70	6.33
KlaResYel18	107.60	215.21	323.70	430.42	538.02	645.63	755.30	860.84	968.44	1,076.05
KlaResYel19	-	1.17	1.90	2.53	3.16	3.80	4.44	5.06	5.70	6.33
KlaResYel20	109.76	219.51	330.17	439.03	548.78	658.54	770.40	878.05	987.81	1,097.57
KlaResYel3	5.13	10.27	15.48	20.57	25.44	25.36	25.27	25.18	25.10	24.96
KlaResYel4	10.36	20.99	31.42	41.53	51.36	61.44	71.42	81.35	91.19	100.77
KlaResYel5	6.03	12.06	18.19	24.17	29.89	35.76	41.57	47.35	53.08	58.65
KlaResYel6	-	-	-	-	-	-	-	-	-	-
KlaResYel7	6.84	13.69	20.74	27.42	33.91	40.57	47.16	53.71	60.21	66.54
KlaResYel8	8.46	17.03	25.63	33.88	41.90	50.13	58.27	66.37	74.40	82.22
KlaResYel9	8.25	16.61	25.00	33.05	40.87	48.89	56.83	64.73	72.57	80.20
LaGrComMTA	463.36	926.73	1,393.90	1,853.45	2,316.82	2,780.18	3,252.43	3,706.91	4,170.27	4,633.63
LaGrComMTW	308.17	604.12	891.84	1,168.80	1,437.83	1,691.38	1,943.26	2,182.61	2,407.07	2,623.75
LaGrComRed2	110.46	220.93	332.30	441.85	552.32	662.78	775.36	883.71	994.17	1,104.64
LaGrComYel1	25.06	49.13	72.53	95.06	116.94	137.56	158.05	177.51	195.77	213.39
LaGrComYel10	1.40	2.81	4.22	5.61	7.02	8.42	9.85	11.23	12.63	14.03
LaGrComYel11	47.84	95.68	143.91	191.36	239.20	287.03	335.79	382.71	430.55	478.39
LaGrComYel12	1.55	3.09	4.65	6.19	7.73	9.28	10.86	12.37	13.92	15.47
LaGrComYel13	2.39	4.78	7.20	9.57	11.96	14.35	16.79	19.14	21.53	23.92
LaGrComYel14	2.66	5.45	8.04	10.54	12.97	15.26	17.63	19.81	21.84	23.92
LaGrComYel15	16.49	32.98	49.60	65.95	82.44	98.93	115.74	131.91	148.40	164.89
LaGrComYel16	16.49	32.98	49.60	65.95	82.44	98.93	115.74	131.91	148.40	164.89

Appendix 4.3 - SENDOUT® Selected Measures (High Growth Low Price Case) in Dth

DSM Program	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
LaGrComYel17	8.10	16.20	24.37	32.40	40.50	48.60	56.86	64.81	72.91	81.01
LaGrComYel18	8.10	16.20	24.37	32.40	40.50	48.60	56.86	64.81	72.91	81.01
LaGrComYel19	11.68	23.36	35.14	46.72	58.40	70.08	81.99	93.45	105.13	116.81
LaGrComYel2	-	1.85	2.78	3.70	4.62	5.55	6.49	7.40	8.32	9.25
LaGrComYel20	-	-	-	-	-	-	-	0.11	0.12	0.34
LaGrComYel3	19.14	38.27	57.56	76.54	95.68	114.81	134.32	153.09	172.22	191.36
LaGrComYel4	12.92	25.83	38.86	51.67	64.58	77.50	90.66	103.33	116.25	129.17
LaGrComYel5	12.92	25.83	38.86	51.67	64.58	77.50	90.66	103.33	116.25	129.17
LaGrComYel6	10.54	21.08	31.71	42.16	52.70	63.24	73.99	84.32	94.86	105.41
LaGrComYel7	45.98	90.14	133.07	174.40	214.54	252.37	289.95	325.66	359.16	391.49
LaGrComYel8	2.97	5.95	8.94	11.89	14.86	17.84	20.87	23.78	26.75	29.73
LaGrComYel9	1.40	2.81	4.22	5.61	7.02	8.42	9.85	11.23	12.63	14.03
LaGrResMTA	88.14	176.28	265.14	352.55	440.69	528.83	618.66	705.11	793.25	881.39
LaGrResMTW	762.62	1,494.99	2,206.98	2,892.38	3,558.13	4,185.58	4,808.87	5,401.18	5,956.65	6,492.84
LaGrResRed1	287.55	563.68	832.14	817.93	804.95	789.08	777.08	763.69	748.65	734.44
LaGrResRed2	121.33	242.65	364.98	485.30	606.63	727.96	851.61	970.61	1,091.94	1,213.26
LaGrResYel1	16.16	32.01	47.26	61.93	76.19	89.62	102.97	115.65	127.55	139.03
LaGrResYel10	1.79	3.50	5.40	7.08	8.71	10.25	11.78	13.23	14.59	15.91
LaGrResYel11	229.13	449.17	663.09	869.02	1,069.05	1,257.57	1,444.84	1,622.80	1,789.69	1,950.79
LaGrResYel12	178.21	349.36	515.74	675.91	831.48	978.11	1,123.76	1,262.18	1,391.98	1,517.28
LaGrResYel13	1.34	2.78	4.10	5.62	6.91	8.13	9.34	10.50	11.58	12.62
LaGrResYel16	51.59	103.18	155.19	206.36	257.95	309.54	362.12	412.72	464.31	515.90
LaGrResYel17	-	-	-	-	1.47	1.76	2.06	2.35	2.64	2.93
LaGrResYel18	49.85	99.69	149.95	199.38	249.23	299.07	349.87	398.76	448.61	498.45
LaGrResYel19	-	-	-	-	1.47	1.76	2.06	2.35	2.64	2.93
LaGrResYel2	2.18	4.38	6.60	8.65	10.64	12.52	14.38	16.16	17.93	19.54
LaGrResYel20	50.84	101.68	152.94	203.37	254.21	305.05	356.87	406.74	457.58	508.42
LaGrResYel3	2.13	4.27	6.43	8.43	10.37	10.17	10.01	9.85	9.65	9.47
LaGrResYel4	4.40	8.80	12.99	17.13	21.07	24.90	28.60	32.13	35.43	38.62
LaGrResYel5	2.50	5.12	7.56	9.91	12.19	14.34	16.47	18.61	20.53	22.48
LaGrResYel6	177.11	347.19	512.54	671.72	826.33	972.05	1,116.80	1,254.36	1,383.36	1,507.88
LaGrResYel7	2.84	5.81	8.57	11.24	13.83	16.27	18.80	21.12	23.39	25.50
LaGrResYel8	3.50	7.18	10.59	13.89	17.19	20.22	23.34	26.21	28.91	31.51
LaGrResYel9	3.42	7.00	10.33	13.55	16.67	19.72	22.76	25.57	28.19	30.73
MedGComRed2	404.19	808.39	1,215.91	1,616.78	2,020.97	2,425.17	2,837.11	3,233.56	3,637.75	4,041.95
MedGComYel10	7.03	14.07	21.16	28.13	35.17	42.20	49.37	56.27	63.30	70.33
MedGComYel11	239.77	479.55	721.29	959.10	1,198.87	1,438.64	1,683.02	1,918.19	2,157.97	2,397.74
MedGComYel12	7.75	15.51	23.32	31.01	38.76	46.52	54.42	62.02	69.77	77.53
MedGComYel13	11.99	23.98	36.06	47.95	59.94	71.93	84.15	95.91	107.90	119.89
MedGComYel14	10.35	20.50	30.20	39.79	49.25	58.49	67.61	76.44	84.94	93.11
MedGComYel15	82.64	165.28	248.61	330.57	413.21	495.85	580.08	661.14	743.78	826.42
MedGComYel16	82.64	165.28	248.61	330.57	413.21	495.85	580.08	661.14	743.78	826.42
MedGComYel17	40.60	81.20	122.14	162.41	203.01	243.61	284.99	324.81	365.42	406.02
MedGComYel18	40.60	81.20	122.14	162.41	203.01	243.61	284.99	324.81	365.42	406.02
MedGComYel19	58.54	117.09	176.12	234.18	292.72	351.27	410.94	468.36	526.90	585.45
MedGComYel20	-	0.12	0.56	0.87	1.19	1.53	1.76	2.09	2.32	2.55
MedGComYel9	7.03	14.07	21.16	28.13	35.17	42.20	49.37	56.27	63.30	70.33
MedGResRed1	1,147.14	2,273.37	3,348.80	3,309.21	3,277.09	3,243.47	3,203.14	3,168.77	3,129.93	3,088.10
MedGResRed2	480.05	960.11	1,444.10	1,920.21	2,400.27	2,880.32	3,369.58	3,840.42	4,320.48	4,800.53
MedGResYel10	7.42	14.90	21.94	28.91	35.78	42.50	48.96	55.35	61.71	67.65
MedGResYel11	915.24	1,813.80	2,671.83	3,520.32	4,357.69	5,175.59	5,963.09	6,741.85	7,491.61	8,212.76
MedGResYel12	711.86	1,410.73	2,078.09	2,738.03	3,389.31	4,025.46	4,637.96	5,243.66	5,826.81	6,387.70
MedGResYel13	5.80	11.82	17.41	22.94	28.39	33.72	38.85	43.92	48.80	53.50
MedGResYel14	-	-	-	1.46	1.82	2.19	2.56	2.91	3.28	3.64
MedGResYel15	-	-	-	-	-	-	-	-	0.71	1.32
MedGResYel16	279.61	559.21	841.12	1,118.43	1,398.04	1,677.64	1,962.61	2,236.86	2,516.47	2,796.07
MedGResYel17	1.59	3.18	4.78	6.36	7.95	9.53	11.15	12.71	14.30	15.89

Appendix 4.3 - SENDOUT® Selected Measures (High Growth Low Price Case) in Dth

DSM Program	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
MedGResYel18	270.15	540.30	812.68	1,080.61	1,350.76	1,620.91	1,896.25	2,161.22	2,431.37	2,701.52
MedGResYel19	1.59	3.18	4.78	6.36	7.95	9.53	11.15	12.71	14.30	15.89
MedGResYel20	275.56	551.11	828.93	1,102.22	1,377.78	1,653.33	1,934.17	2,204.44	2,480.00	2,755.55
MedGTComYel1	92.59	183.48	270.28	356.11	440.82	523.56	603.22	682.00	757.84	830.80
MedGTComYel2	4.64	9.27	13.94	18.54	23.18	27.81	32.54	37.09	41.72	46.36
MedGTComYel3	95.91	191.82	288.52	383.64	479.55	575.46	673.21	767.28	863.19	959.10
MedGTComYel4	64.74	129.48	194.75	258.96	323.69	388.43	454.41	517.91	582.65	647.39
MedGTComYel5	64.74	129.48	194.75	258.96	323.69	388.43	454.41	517.91	582.65	647.39
MedGTComYel6	52.83	105.66	158.92	211.32	264.15	316.98	370.82	422.64	475.47	528.30
MedGTComYel7	169.86	336.61	495.85	653.32	808.72	960.51	1,106.66	1,251.18	1,390.33	1,524.16
MedGTComYel8	14.90	29.80	44.82	59.60	74.50	89.40	104.58	119.20	134.10	149.00
MedGTNComMTA	1,695.48	3,390.96	5,100.37	6,781.92	8,477.40	10,172.88	11,900.87	13,563.84	15,259.32	16,954.80
MedGTNComMTW	1,137.93	2,255.11	3,321.90	4,376.84	5,417.94	6,434.84	7,413.95	8,382.19	9,314.37	10,210.98
MedGTNResMTA	348.74	697.48	1,049.08	1,394.96	1,743.69	2,092.43	2,447.86	2,789.91	3,138.65	3,487.39
MedGTNResMTW	3,049.83	6,044.06	8,903.24	11,730.64	14,520.97	17,246.42	19,870.59	22,465.63	24,964.02	27,367.08
MedGTResYel1	65.03	129.27	190.42	250.89	310.57	368.86	424.98	480.48	533.92	585.31
MedGTResYel2	9.18	18.19	26.80	35.31	43.70	51.91	59.80	67.83	75.38	82.63
MedGTResYel3	8.95	17.73	26.12	34.41	42.60	42.16	41.63	41.18	40.68	40.13
MedGTResYel4	18.06	35.80	52.73	69.69	86.27	102.46	118.05	133.47	148.31	162.59
MedGTResYel5	10.51	20.84	30.69	40.44	50.05	59.44	68.71	77.68	86.32	94.63
MedGTResYel6	707.44	1,401.99	2,065.21	2,721.06	3,368.31	4,000.51	4,609.22	5,211.17	5,790.70	6,348.12
MedGTResYel7	11.93	23.64	34.82	45.87	56.78	67.65	77.95	88.13	97.93	107.36
MedGTResYel8	14.74	29.21	43.02	56.68	70.38	83.60	96.31	108.89	121.00	132.65
MedGTResYel9	14.38	28.49	41.96	55.28	68.65	81.54	93.94	106.21	118.02	129.38
MedNComRed2	181.59	363.19	546.28	726.38	907.97	1,089.57	1,274.65	1,452.76	1,634.35	1,815.95
MedNComYel10	3.16	6.32	9.51	12.64	15.80	18.96	22.18	25.28	28.44	31.60
MedNComYel11	107.72	215.45	324.06	430.90	538.62	646.35	756.14	861.80	969.52	1,077.25
MedNComYel12	3.48	6.97	10.48	13.93	17.42	20.90	24.45	27.86	31.35	34.83
MedNComYel13	5.39	10.77	16.20	21.54	26.93	32.32	37.81	43.09	48.48	53.86
MedNComYel14	4.52	9.21	13.57	17.87	22.13	26.28	30.27	34.23	38.03	41.69
MedNComYel15	37.13	74.26	111.69	148.52	185.65	222.77	260.62	297.03	334.16	371.29
MedNComYel16	37.13	74.26	111.69	148.52	185.65	222.77	260.62	297.03	334.16	371.29
MedNComYel17	18.24	36.48	54.87	72.97	91.21	109.45	128.04	145.93	164.17	182.41
MedNComYel18	18.24	36.48	54.87	72.97	91.21	109.45	128.04	145.93	164.17	182.41
MedNComYel19	26.30	52.61	79.12	105.21	131.51	157.82	184.62	210.42	236.72	263.03
MedNComYel20	-	-	-	0.11	0.24	0.49	0.57	0.75	0.83	0.92
MedNComYel9	3.16	6.32	9.51	12.64	15.80	18.96	22.18	25.28	28.44	31.60
MedNResRed1	515.98	1,022.56	1,506.29	1,488.48	1,474.03	1,458.91	1,440.77	1,425.31	1,407.84	1,389.02
MedNResRed2	215.68	431.35	648.80	862.70	1,078.38	1,294.06	1,513.87	1,725.41	1,941.08	2,156.76
MedNResYel10	3.28	6.51	9.86	12.99	16.08	19.09	22.00	24.87	27.63	30.29
MedNResYel11	411.20	814.90	1,200.39	1,581.59	1,957.80	2,325.26	2,679.07	3,028.95	3,365.80	3,689.79
MedNResYel12	319.82	633.81	933.63	1,230.13	1,522.74	1,808.54	2,083.72	2,355.85	2,617.84	2,869.84
MedNResYel13	2.61	5.16	7.82	10.30	12.76	15.15	17.45	19.73	21.93	24.03
MedNResYel14	-	-	-	-	-	-	-	1.31	1.47	1.64
MedNResYel16	125.62	251.24	377.89	502.48	628.10	753.72	881.75	1,004.97	1,130.59	1,256.21
MedNResYel17	-	1.43	2.15	2.86	3.57	4.28	5.01	5.71	6.43	7.14
MedNResYel18	121.37	242.75	365.12	485.49	606.86	728.24	851.94	970.98	1,092.35	1,213.73
MedNResYel19	-	1.43	2.15	2.86	3.57	4.28	5.01	5.71	6.43	7.14
MedNResYel20	123.80	247.60	372.42	495.20	619.00	742.80	868.98	990.40	1,114.20	1,238.00
MedNWComYel1	41.47	82.43	121.43	159.99	198.05	235.22	271.01	306.41	340.48	373.26
MedNWComYel2	2.08	4.17	6.27	8.33	10.41	12.50	14.62	16.66	18.74	20.83
MedNWComYel3	43.09	86.18	129.62	172.36	215.45	258.54	302.46	344.72	387.81	430.90
MedNWComYel4	29.09	58.17	87.50	116.34	145.43	174.51	204.16	232.69	261.77	290.86
MedNWComYel5	29.09	58.17	87.50	116.34	145.43	174.51	204.16	232.69	261.77	290.86
MedNWComYel6	23.74	47.47	71.40	94.94	118.68	142.41	166.60	189.88	213.62	237.35
MedNWComYel7	76.31	151.23	222.77	293.52	363.34	431.53	497.19	562.13	624.64	684.77
MedNWComYel8	6.69	13.39	20.14	26.78	33.47	40.16	46.99	53.55	60.25	66.94

Appendix 4.3 - SENDOUT® Selected Measures (High Growth Low Price Case) in Dth

DSM Program	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
MedNWPComMTA	761.74	1,523.47	2,291.47	3,046.95	3,808.69	4,570.42	5,346.77	6,093.90	6,855.64	7,617.37
MedNWPComMTW	511.38	1,013.43	1,492.84	1,966.92	2,434.78	2,891.77	3,331.78	3,766.90	4,185.81	4,588.74
MedNWPResMTA	156.68	313.36	471.33	626.72	783.40	940.08	1,099.76	1,253.44	1,410.12	1,566.80
MedNWPResMTW	1,368.28	2,711.61	3,994.35	5,262.84	6,514.70	7,737.44	8,914.75	10,078.99	11,199.87	12,277.98
MedNWResYel1	29.22	57.90	85.55	112.72	139.53	165.72	190.93	215.87	239.87	262.97
MedNWResYel2	4.01	8.17	12.04	15.86	19.64	23.32	26.87	30.37	33.75	37.00
MedNWResYel3	3.91	7.97	11.73	15.46	19.14	18.94	18.70	18.50	18.28	18.03
MedNWResYel4	8.12	16.08	23.69	31.21	38.63	45.88	52.86	59.77	66.63	73.05
MedNWResYel5	4.59	9.36	13.79	18.17	22.49	26.71	30.77	34.79	38.65	42.37
MedNWResYel6	317.84	629.88	927.85	1,222.51	1,513.30	1,797.33	2,070.81	2,341.25	2,601.62	2,852.05
MedNWResYel7	5.21	10.62	15.64	20.61	25.51	30.30	34.91	39.46	43.85	48.07
MedNWResYel8	6.44	13.12	19.33	25.46	31.52	37.44	43.13	48.76	54.18	59.60
MedNWResYel9	6.28	12.80	18.85	24.84	30.74	36.51	42.07	47.56	52.85	57.93
RosComMTA	727.73	1,455.45	2,189.16	2,910.90	3,638.63	4,366.35	5,108.03	5,821.80	6,549.53	7,277.25
RosComMTW	494.79	980.00	1,444.87	1,899.70	2,346.50	2,785.65	3,217.25	3,637.61	4,024.47	4,418.98
RosComRed2	173.49	346.97	521.88	693.95	867.43	1,040.92	1,217.73	1,387.89	1,561.38	1,734.86
RosComYel1	40.18	79.70	117.51	154.50	190.84	226.55	261.65	295.84	327.30	359.39
RosComYel10	3.41	6.81	10.25	13.62	17.03	20.44	23.91	27.25	30.65	34.06
RosComYel11	116.11	232.22	349.28	464.44	580.54	696.65	814.99	928.87	1,044.98	1,161.09
RosComYel12	3.75	7.51	11.29	15.02	18.77	22.53	26.35	30.03	33.79	37.54
RosComYel13	5.81	11.61	17.46	23.22	29.03	34.83	40.75	46.44	52.25	58.05
RosComYel14	4.33	8.89	13.11	17.23	21.28	25.27	29.18	33.10	36.62	40.21
RosComYel15	40.02	80.04	120.39	160.08	200.09	240.11	280.90	320.15	360.17	400.19
RosComYel16	40.02	80.04	120.39	160.08	200.09	240.11	280.90	320.15	360.17	400.19
RosComYel17	19.66	39.32	59.14	78.64	98.31	117.97	138.00	157.29	176.95	196.61
RosComYel18	19.66	39.32	59.14	78.64	98.31	117.97	138.00	157.29	176.95	196.61
RosComYel19	28.35	56.70	85.28	113.40	141.75	170.10	198.99	226.80	255.15	283.50
RosComYel2	2.24	4.49	6.75	8.98	11.22	13.47	15.76	17.96	20.20	22.45
RosComYel20	-	-	-	-	0.12	0.37	0.53	0.71	0.79	0.86
RosComYel3	46.44	92.89	139.71	185.77	232.22	278.66	326.00	371.55	417.99	464.44
RosComYel4	31.35	62.70	94.31	125.40	156.75	188.10	220.05	250.79	282.14	313.49
RosComYel5	31.35	62.70	94.31	125.40	156.75	188.10	220.05	250.79	282.14	313.49
RosComYel6	25.58	51.17	76.96	102.33	127.91	153.50	179.57	204.66	230.24	255.83
RosComYel7	73.82	146.22	215.58	283.44	350.11	415.63	480.03	542.75	600.47	659.33
RosComYel8	7.22	14.43	21.70	28.86	36.08	43.29	50.64	57.72	64.94	72.15
RosComYel9	3.41	6.81	10.25	13.62	17.03	20.44	23.91	27.25	30.65	34.06
RosResMTA	115.88	231.76	348.59	463.52	579.40	695.28	813.38	927.04	1,042.91	1,158.79
RosResMTW	1,026.80	2,033.73	2,998.44	3,942.30	4,869.52	5,780.85	6,676.53	7,548.87	8,351.68	9,170.39
RosResRed1	384.55	761.67	1,122.97	1,107.35	1,094.24	1,082.52	1,071.64	1,060.20	1,042.62	1,030.35
RosResRed2	159.51	319.03	479.85	638.05	797.56	957.08	1,119.65	1,276.10	1,435.61	1,595.13
RosResYel1	21.85	43.41	64.00	84.27	104.08	123.56	142.71	161.36	178.52	196.01
RosResYel10	2.44	4.82	7.37	9.69	11.97	14.21	16.41	18.56	20.53	22.55
RosResYel11	307.96	609.95	899.29	1,182.37	1,460.46	1,733.79	2,002.42	2,264.05	2,504.83	2,750.38
RosResYel12	239.52	474.41	699.45	919.62	1,135.91	1,348.50	1,557.44	1,760.93	1,948.20	2,139.18
RosResYel13	1.93	3.83	5.75	7.69	9.50	11.28	13.02	14.72	16.29	17.89
RosResYel14	-	-	-	-	-	-	-	-	1.13	1.37
RosResYel16	104.82	209.64	315.32	419.28	524.10	628.92	735.75	838.56	943.38	1,048.20
RosResYel17	-	0.71	1.79	2.38	2.98	3.57	4.18	4.77	5.36	5.96
RosResYel18	101.28	202.55	304.66	405.10	506.38	607.65	710.87	810.20	911.48	1,012.75
RosResYel19	-	0.71	1.79	2.38	2.98	3.57	4.18	4.77	5.36	5.96
RosResYel2	2.98	6.01	9.01	11.84	14.62	17.36	20.05	22.67	25.08	27.54
RosResYel20	103.30	206.60	310.75	413.20	516.50	619.80	725.08	826.40	929.70	1,033.01
RosResYel3	2.90	5.86	8.78	11.54	14.25	14.10	13.96	13.81	13.58	13.42
RosResYel4	5.97	12.02	17.72	23.30	28.77	34.27	39.58	44.75	49.51	54.36
RosResYel5	3.41	7.00	10.31	13.56	16.75	19.88	22.96	25.96	28.72	31.64
RosResYel6	238.04	471.47	463.41	456.96	451.55	446.71	442.22	437.50	430.25	425.18
RosResYel7	3.87	7.94	11.70	15.38	19.00	22.55	26.05	29.55	32.69	35.89

Appendix 4.3 - SENDOUT® Selected Measures (High Growth Low Price Case) in Dth

DSM Program	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
RosResYel8	4.78	9.81	14.46	19.01	23.47	27.87	32.29	36.51	40.39	44.35
RosResYel9	4.66	9.56	14.10	18.54	22.90	27.18	31.50	35.61	39.40	43.26
SpoBComYel10	185.38	370.76	557.66	741.52	926.89	1,112.27	1,301.21	1,483.03	1,668.41	1,853.79
SpoBComYel11	204.04	408.09	613.81	816.18	1,020.22	1,224.27	1,432.23	1,632.36	1,836.41	2,040.45
SpoBComYel12	89.36	178.73	268.83	357.46	446.83	536.19	627.27	714.92	804.29	893.65
SpoBoComMTA	490.66	981.32	1,476.02	1,962.64	2,453.31	2,943.97	3,444.04	3,925.29	4,415.95	4,906.61
SpoBoComMTW	1,145.69	2,281.44	3,373.00	4,453.63	5,533.11	6,612.91	7,632.79	8,642.41	9,646.73	10,658.99
SpoBoComRed1	1,679.53	3,344.50	4,944.68	6,528.84	8,111.30	9,694.25	11,189.35	12,669.40	14,141.69	15,625.63
SpoBoComRed2	-	260.91	392.43	521.81	652.27	782.72	915.68	1,043.63	1,174.08	1,304.54
SpoBoComYel1	12.08	24.16	36.33	48.31	60.39	72.47	84.78	96.62	108.70	120.78
SpoBoComYel2	17.69	35.38	53.22	70.76	88.45	106.14	124.17	141.52	159.21	176.90
SpoBoComYel3	376.25	752.50	1,131.84	1,504.99	1,881.24	2,257.49	2,640.95	3,009.98	3,386.23	3,762.48
SpoBoComYel4	98.82	197.64	297.27	395.28	494.10	592.92	693.64	790.56	889.38	988.20
SpoBoComYel5	40.32	80.64	121.29	161.28	201.61	241.93	283.02	322.57	362.89	403.21
SpoBoComYel6	67.29	134.00	198.11	261.58	324.99	388.41	448.31	507.61	566.60	626.05
SpoBoComYel7	54.29	108.58	163.32	217.16	271.45	325.74	381.07	434.32	488.61	542.90
SpoBoComYel8	21.58	43.17	64.93	86.34	107.93	129.51	151.51	172.68	194.26	215.85
SpoBoComYel9	147.31	294.63	443.16	589.26	736.58	883.89	1,034.03	1,178.52	1,325.83	1,473.15
SpoBoResMTA	12,623.68	25,247.35	37,974.78	50,494.70	63,118.38	75,742.05	88,607.83	100,989.41	113,613.08	126,236.76
SpoBoResMTW	109,974.69	218,995.98	323,774.64	427,504.55	531,123.26	634,773.72	732,672.01	829,585.12	925,989.76	1,023,157.10
SpoBoResRed1	37,290.62	74,257.95	109,786.68	144,959.80	180,095.20	215,241.37	248,437.08	281,298.73	313,987.96	346,935.82
SpoBoResRed2	2,758.45	5,516.89	8,298.01	11,033.78	13,792.23	16,550.68	19,362.02	22,067.57	24,826.02	27,584.46
SpoBoResYel1	122.50	243.93	360.64	476.18	591.60	707.05	816.09	924.04	1,031.42	1,139.65
SpoBoResYel2	2,023.42	4,029.31	5,957.13	7,865.66	9,772.14	11,679.20	13,480.43	15,263.54	17,037.29	18,825.07
SpoBoResYel3	35.82	71.32	105.45	139.23	172.98	172.28	170.45	168.87	167.55	166.62
SpoBoResYel4	193.42	385.15	569.43	751.86	934.10	1,116.39	1,288.57	1,459.01	1,628.56	1,799.45
SpoBoResYel5	38.68	77.03	113.89	150.37	186.82	223.28	257.71	291.80	325.71	359.89
SpoBoResYel6	193.42	385.15	569.43	751.86	934.10	1,116.39	1,288.57	1,459.01	1,628.56	1,799.45
SpoBoResYel7	38.68	77.03	113.89	150.37	186.82	223.28	257.71	291.80	325.71	359.89
SpoBoResYel8	72.31	143.99	212.88	281.08	349.21	417.35	481.72	545.44	608.83	672.71
SpoBoResYel9	73.37	146.11	216.01	285.22	354.35	423.51	488.82	553.48	617.80	682.62
SpoBResYel10	22.79	45.39	67.10	88.60	110.08	131.56	151.85	171.94	191.92	212.06
SpoBResYel11	1,598.36	3,182.86	4,705.71	6,213.31	7,719.29	9,225.73	10,648.58	12,057.10	13,458.24	14,870.46
SpoBResYel12	2,279.30	4,538.84	6,710.46	8,860.33	11,007.90	13,156.13	15,185.14	17,193.73	19,191.78	21,205.65
SpoBResYel13	14.89	29.96	44.29	58.48	72.65	86.83	100.22	113.48	126.67	139.96
SpoBResYel14	1,027.52	2,046.13	3,025.10	3,994.27	4,962.40	5,930.83	6,845.51	7,751.00	8,651.72	9,559.58
SpoBResYel15	7,407.79	14,751.36	21,809.15	28,796.30	35,775.96	42,757.76	49,352.09	55,880.07	62,373.79	68,918.89
SpoBResYel16	18.64	37.49	55.43	73.19	90.93	108.68	125.44	142.03	158.54	175.18
SpoBResYel17	1.38	2.77	4.16	5.54	6.92	8.30	9.71	11.07	12.46	13.84
SpoBResYel18	-	-	1.51	2.01	2.52	3.02	3.53	4.03	4.53	5.03
SpoBResYel19	8.87	17.65	26.36	34.81	43.25	51.68	59.66	67.55	75.40	83.31
SpoBResYel20	420.92	841.84	1,266.21	1,683.67	2,104.59	2,525.51	2,954.50	3,367.35	3,788.26	4,209.18
SpoBResYel21	5.50	11.00	16.55	22.01	27.51	33.01	38.62	44.02	49.52	55.02
SpoBResYel22	44.29	88.57	133.23	177.15	221.44	265.72	310.86	354.30	398.58	442.87
SpoBResYel23	5.50	11.00	16.55	22.01	27.51	33.01	38.62	44.02	49.52	55.02
SpoBResYel24	1,047.16	2,094.33	3,150.09	4,188.65	5,235.81	6,282.98	7,350.22	8,377.30	9,424.46	10,471.63
SpoBResYel25	178.86	356.18	526.59	695.30	863.83	1,032.40	1,191.63	1,349.25	1,506.04	1,664.08
SpoGComYel10	24.31	48.62	73.14	97.25	121.56	145.87	170.65	194.50	218.81	243.12
SpoGComYel11	26.76	53.52	80.50	107.04	133.80	160.56	187.83	214.08	240.84	267.60
SpoGComYel12	11.72	23.44	35.26	46.88	58.60	70.32	82.26	93.76	105.48	117.20
SpoGResYel10	2.82	5.89	8.71	11.50	14.29	17.08	19.91	22.55	25.17	27.81
SpoGResYel11	209.62	417.42	617.14	814.86	1,012.37	1,209.93	1,396.53	1,581.26	1,765.01	1,950.22
SpoGResYel12	298.92	595.26	880.06	1,162.01	1,443.66	1,725.39	1,991.49	2,254.92	2,516.96	2,781.07
SpoGResYel13	1.77	3.81	5.75	7.59	9.43	11.27	13.01	14.73	16.44	18.17
SpoGResYel14	134.76	268.34	396.73	523.84	650.81	777.81	897.77	1,016.52	1,134.65	1,253.72
SpoGResYel15	971.51	1,934.60	2,860.22	3,776.56	4,691.93	5,607.57	6,472.41	7,328.53	8,180.17	9,038.54
SpoGResYel16	2.33	4.87	7.20	9.50	11.80	14.11	16.28	18.43	20.79	22.97

Appendix 4.3 - SENDOUT® Selected Measures (High Growth Low Price Case) in Dth

DSM Program	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
SpoGResYel17	-	-	-	-	-	-	1.27	1.45	1.63	1.81
SpoGResYel19	0.87	2.20	3.25	4.42	5.61	6.71	7.74	8.77	9.79	10.81
SpoGResYel20	55.20	110.40	166.06	220.81	276.01	331.21	387.48	441.62	496.82	552.02
SpoGResYel21	-	1.44	2.17	2.89	3.61	4.33	5.07	5.77	6.49	7.22
SpoGResYel22	6.13	12.27	18.45	24.53	30.67	36.80	43.05	49.07	55.20	61.34
SpoGResYel23	-	1.44	2.17	2.89	3.61	4.33	5.07	5.77	6.49	7.22
SpoGResYel24	137.33	274.67	413.13	549.33	686.66	824.00	963.96	1,098.66	1,236.00	1,373.33
SpoGResYel25	23.46	46.71	69.06	91.19	113.29	135.40	156.28	176.95	197.51	218.24
SpoGTComRed1	220.27	438.62	648.48	856.24	1,063.78	1,271.38	1,467.46	1,661.56	1,854.65	2,049.26
SpoGTComRed2	-	34.22	51.47	68.43	85.54	102.65	120.09	136.87	153.98	171.09
SpoGTComYel1	1.58	3.17	4.77	6.34	7.92	9.50	11.12	12.67	14.26	15.84
SpoGTComYel2	2.32	4.64	6.98	9.28	11.60	13.92	16.28	18.56	20.88	23.20
SpoGTComYel3	49.34	98.69	148.44	197.38	246.72	296.06	346.35	394.75	444.10	493.44
SpoGTComYel4	12.96	25.92	38.99	51.84	64.80	77.76	90.97	103.68	116.64	129.60
SpoGTComYel5	5.29	10.58	15.91	21.15	26.44	31.73	37.12	42.30	47.59	52.88
SpoGTComYel6	8.74	17.40	25.98	34.31	42.62	50.94	58.79	66.57	74.31	82.11
SpoGTComYel7	7.12	14.24	21.42	28.48	35.60	42.72	49.98	56.96	64.08	71.20
SpoGTComYel8	2.40	4.80	7.22	9.60	12.00	14.40	16.85	19.20	21.60	24.00
SpoGTComYel9	19.32	38.64	58.12	77.28	96.60	115.92	135.61	154.56	173.88	193.20
SpoGTNComMTA	64.35	128.70	193.58	257.40	321.75	386.09	451.68	514.79	579.14	643.49
SpoGTNComMTW	149.36	297.43	439.73	580.61	721.34	862.11	995.07	1,126.69	1,257.62	1,389.59
SpoGTNResMTA	1,655.56	3,311.13	4,980.30	6,622.26	8,277.82	9,933.38	11,620.70	13,244.51	14,900.08	16,555.64
SpoGTNResMTW	14,395.68	28,666.56	42,382.08	55,960.32	69,524.00	83,091.84	95,906.72	108,592.64	121,212.00	133,931.20
SpoGTResRed1	4,890.57	9,738.75	14,398.25	19,011.12	23,619.04	28,228.38	32,581.91	36,891.64	41,178.75	45,499.78
SpoGTResRed2	361.76	723.53	1,088.26	1,447.05	1,808.82	2,170.58	2,539.28	2,894.11	3,255.87	3,617.63
SpoGTResYel1	15.90	31.99	47.30	62.45	77.59	92.73	107.03	121.19	135.27	149.46
SpoGTResYel2	265.37	528.43	781.26	1,031.56	1,281.59	1,531.70	1,767.93	2,001.78	2,234.40	2,468.86
SpoGTResYel3	4.55	9.26	13.69	18.07	22.69	22.59	22.35	22.15	21.97	21.85
SpoGTResYel4	25.37	50.51	74.68	98.60	122.50	146.41	168.99	191.35	213.58	235.99
SpoGTResYel5	5.02	10.00	14.78	19.62	24.50	29.28	33.80	38.27	42.72	47.20
SpoGTResYel6	25.37	50.51	74.68	98.60	122.50	146.41	168.99	191.35	213.58	235.99
SpoGTResYel7	5.02	10.00	14.78	19.62	24.50	29.28	33.80	38.27	42.72	47.20
SpoGTResYel8	9.39	18.69	27.92	36.86	45.80	54.74	63.18	71.53	79.85	88.22
SpoGTResYel9	9.53	18.97	28.33	37.41	46.47	55.54	64.11	72.59	81.02	89.52
SpoNComYel10	94.21	188.42	283.40	376.84	471.05	565.25	661.27	753.67	847.88	942.09
SpoNComYel11	103.70	207.39	311.94	414.78	518.48	622.17	727.85	829.56	933.26	1,036.95
SpoNComYel12	45.42	90.83	136.62	181.66	227.08	272.49	318.78	363.32	408.73	454.15
SpoNResYel10	11.47	23.07	34.10	45.03	55.94	66.86	77.17	87.38	97.53	107.77
SpoNResYel11	812.28	1,617.52	2,391.42	3,157.58	3,922.92	4,688.49	5,411.57	6,127.38	6,839.43	7,557.12
SpoNResYel12	1,158.33	2,306.63	3,410.23	4,502.79	5,594.18	6,685.90	7,717.04	8,737.80	9,753.20	10,776.64
SpoNResYel13	7.57	15.07	22.51	29.72	36.92	44.13	50.93	57.67	64.37	71.13
SpoNResYel14	522.18	1,039.84	1,537.34	2,029.87	2,521.88	3,014.03	3,478.87	3,939.03	4,396.78	4,858.15
SpoNResYel15	3,764.62	7,496.59	11,083.34	14,634.19	18,181.23	21,729.35	25,080.57	28,398.07	31,698.16	35,024.36
SpoNResYel16	9.47	18.86	28.17	37.20	46.21	55.23	63.75	72.18	80.57	89.02
SpoNResYel17	-	1.41	2.12	2.81	3.52	4.22	4.94	5.63	6.33	7.03
SpoNResYel18	-	-	-	-	1.18	1.53	1.80	2.05	2.30	2.56
SpoNResYel19	4.41	8.97	13.26	17.51	21.98	26.27	30.32	34.33	38.32	42.34
SpoNResYel20	213.91	427.82	643.49	855.64	1,069.55	1,283.46	1,501.47	1,711.27	1,925.18	2,139.09
SpoNResYel21	2.80	5.59	8.41	11.18	13.98	16.78	19.63	22.37	25.17	27.96
SpoNResYel22	23.77	47.54	71.50	95.07	118.84	142.61	166.83	190.14	213.91	237.68
SpoNResYel23	2.80	5.59	8.41	11.18	13.98	16.78	19.63	22.37	25.17	27.96
SpoNResYel24	532.16	1,064.33	1,600.87	2,128.66	2,660.82	3,192.99	3,735.36	4,257.32	4,789.48	5,321.65
SpoNResYel25	90.90	181.01	267.61	353.35	438.99	524.66	605.58	685.68	765.37	845.68
SpoNWComRed1	853.53	1,699.66	2,512.87	3,317.93	4,122.14	4,926.58	5,686.39	6,438.55	7,186.76	7,940.89
SpoNWComRed2	-	132.59	199.43	265.18	331.48	397.78	465.34	530.37	596.66	662.96
SpoNWComYel1	6.14	12.28	18.46	24.55	30.69	36.83	43.08	49.10	55.24	61.38
SpoNWComYel2	8.99	17.98	27.04	35.96	44.95	53.94	63.10	71.92	80.91	89.90

Appendix 4.3 - SENDOUT® Selected Measures (High Growth Low Price Case) in Dth

DSM Program	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
SpoNWComYel3	191.21	382.42	575.20	764.83	956.04	1,147.25	1,342.12	1,529.66	1,720.87	1,912.08
SpoNWComYel4	50.22	100.44	151.07	200.88	251.10	301.32	352.50	401.76	451.98	502.20
SpoNWComYel5	20.49	40.98	61.64	81.96	102.46	122.95	143.83	163.93	184.42	204.91
SpoNWComYel6	34.20	68.10	100.68	132.94	165.16	197.39	227.83	257.97	287.94	318.16
SpoNWComYel7	27.59	55.18	83.00	110.36	137.95	165.54	193.66	220.72	248.31	275.90
SpoNwComYel8	9.30	18.60	27.98	37.20	46.50	55.80	65.28	74.40	83.70	93.00
SpoNWComYel9	74.87	149.73	225.21	299.46	374.32	449.19	525.49	598.92	673.78	748.65
SpoNWPComMTA	249.35	498.70	750.11	997.41	1,246.76	1,496.11	1,750.25	1,994.82	2,244.17	2,493.52
SpoNWPComMTW	578.77	1,152.53	1,703.96	2,249.87	2,795.19	3,340.68	3,855.90	4,365.93	4,873.29	5,384.66
SpoNWPResMTA	6,415.31	12,830.62	19,298.66	25,661.24	32,076.55	38,491.86	45,030.21	51,322.48	57,737.80	64,153.11
SpoNWPResMTW	55,852.47	111,220.74	164,434.32	217,115.28	269,739.75	322,380.36	372,099.63	421,318.56	470,279.25	519,627.30
SpoNWResRed1	18,950.97	37,737.65	55,793.23	73,668.09	91,523.79	109,384.96	126,254.91	142,955.09	159,567.65	176,311.64
SpoNWResRed2	1,401.83	2,803.67	4,217.02	5,607.33	7,009.17	8,411.00	9,839.72	11,214.67	12,616.50	14,018.33
SpoNWResYel1	62.25	123.96	183.28	241.99	300.65	359.32	414.74	469.59	524.16	579.17
SpoNWResYel2	1,028.30	2,047.68	3,027.39	3,997.30	4,966.17	5,935.33	6,850.71	7,756.88	8,658.29	9,566.84
SpoNWResYel3	18.02	36.25	53.59	70.76	87.91	87.55	86.62	85.82	85.15	84.67
SpoNWResYel4	98.29	195.73	289.38	382.09	474.71	567.35	654.85	741.46	827.63	914.47
SpoNWResYel5	19.46	39.15	57.88	76.42	94.94	113.47	130.97	148.29	165.53	182.89
SpoNWResYel6	98.29	195.73	289.38	382.09	474.71	567.35	654.85	741.46	827.63	914.47
SpoNWResYel7	19.46	39.15	57.88	76.42	94.94	113.47	130.97	148.29	165.53	182.89
SpoNWResYel8	36.75	73.17	108.18	142.84	177.47	212.10	244.81	277.19	309.40	341.87
SpoNWResYel9	37.29	74.25	109.78	144.95	180.08	215.22	248.42	281.28	313.96	346.91
Total	334,773.39	667,296.95	988,536.74	1,303,215.49	1,617,684.94	1,931,911.48	2,232,354.20	2,528,495.50	2,823,605.22	3,120,181.74
WA/ID	301,814.13	601,712.74	891,185.01	1,177,562.75	1,463,920.90	1,750,299.42	2,023,082.98	2,292,255.67	2,560,765.39	2,831,156.39
OR	28,184.13	56,085.76	83,463.49	107,828.20	132,020.36	155,984.57	179,756.19	202,962.26	225,922.66	248,427.17

Appendix 4.3 - SENDOUT® Selected Measures (High Growth Low Price Case) in Dth

DSM Program	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029
KlaComRed2	2,507.25	2,727.70	2,955.01	3,182.32	3,418.97	3,636.94	3,636.94	3,636.94	3,646.90	3,636.94
KlaComYel10	28.65	31.17	31.17	31.17	31.26	31.17	31.17	31.17	31.26	31.17
KlaComYel11	976.76	1,062.64	1,151.20	1,239.75	1,331.94	1,328.30	1,328.30	1,328.30	1,331.94	1,328.30
KlaComYel12	31.58	34.36	37.22	40.09	43.07	45.81	48.67	51.54	54.55	57.26
KlaComYel13	48.84	53.13	57.56	61.99	66.60	66.42	66.42	66.42	66.60	66.42
KlaComYel14	58.75	64.04	64.04	64.04	64.04	64.02	63.97	63.97	63.85	63.81
KlaComYel15	336.66	366.26	366.26	366.26	367.26	366.26	366.26	366.26	367.26	366.26
KlaComYel16	336.66	366.26	366.26	366.26	367.26	366.26	366.26	366.26	367.26	366.26
KlaComYel17	165.40	179.94	194.94	209.93	225.54	224.93	224.93	224.93	225.54	224.93
KlaComYel18	165.40	179.94	194.94	209.93	225.54	224.93	224.93	224.93	225.54	224.93
KlaComYel19	238.49	259.46	281.08	302.71	325.22	324.33	324.33	324.33	325.22	324.33
KlaComYel20	1.45	1.69	1.83	1.97	2.11	2.25	2.39	2.53	2.66	2.80
KlaComYel9	28.65	31.17	31.17	31.17	31.26	31.17	31.17	31.17	31.26	31.17
KlamComMTA	10,517.17	11,441.93	12,395.43	12,395.43	12,429.39	12,395.43	12,395.43	12,395.43	12,429.39	12,395.43
KlamComMTW	6,427.42	7,006.27	7,590.13	8,173.98	8,173.98	8,171.44	8,165.07	8,163.79	8,148.50	8,143.41
KlamComYel1	524.23	571.44	619.06	666.68	714.30	761.69	808.66	856.09	901.96	948.84
KlamComYel2	18.88	18.83	18.83	18.83	18.88	18.83	18.83	18.83	18.88	18.83
KlamComYel3	390.70	425.06	460.48	495.90	532.78	531.32	531.32	531.32	532.78	531.32
KlamComYel4	263.72	286.91	286.91	286.91	287.70	286.91	286.91	286.91	287.70	286.91
KlamComYel5	263.72	286.91	286.91	286.91	287.70	286.91	286.91	286.91	287.70	286.91
KlamComYel6	215.21	234.14	253.65	273.16	293.47	292.67	292.67	292.67	293.47	292.67
KlamComYel7	961.74	1,048.36	1,135.72	1,223.09	1,310.45	1,397.38	1,483.55	1,570.58	1,654.73	1,740.73
KlamComYel8	60.70	66.03	71.54	77.04	82.77	88.04	93.55	99.05	104.84	110.06
KlamResMTA	2,333.06	2,538.20	2,538.20	2,538.20	2,545.16	2,538.20	2,538.20	2,538.20	2,545.16	2,538.20
KlamResMTW	18,575.95	20,248.90	21,936.30	23,623.71	25,311.12	26,990.11	28,654.64	30,335.47	31,960.81	33,621.92
KlamResYel1	362.11	361.83	361.83	361.83	361.83	361.72	361.43	361.38	360.70	360.47
KlamResYel2	51.12	51.08	51.08	51.08	51.08	51.07	51.03	51.02	50.92	50.89
KlaResRed1	1,907.04	1,905.55	1,905.55	1,905.55	1,905.55	1,904.96	1,903.47	1,903.18	1,899.61	1,898.42
KlaResRed2	3,211.55	3,493.94	3,785.10	4,076.26	4,087.43	4,076.26	4,076.26	4,076.26	4,087.43	4,076.26
KlaResYel10	46.04	50.19	54.37	58.55	62.73	66.89	71.02	75.18	79.21	83.33
KlaResYel11	5,589.03	6,092.38	6,600.08	7,107.78	7,615.47	8,120.64	8,621.45	9,127.17	9,616.20	10,115.98
KlaResYel12	4,347.03	4,738.52	5,133.39	5,528.27	5,923.15	6,316.05	6,705.57	7,098.91	7,479.26	7,867.99
KlaResYel13	36.53	39.82	43.14	46.46	49.77	53.08	56.35	59.65	62.85	66.12
KlaResYel14	1.60	1.74	1.89	2.03	2.18	2.18	2.18	2.18	2.18	2.18
KlaResYel16	1,228.44	1,336.45	1,447.82	1,559.19	1,675.14	1,781.93	1,893.30	2,004.67	2,121.84	2,227.42
KlaResYel17	6.98	7.60	8.23	8.86	9.52	10.13	10.76	11.39	12.06	12.66
KlaResYel18	1,186.89	1,291.26	1,398.86	1,506.47	1,618.49	1,721.67	1,829.28	1,936.88	2,050.09	2,152.09
KlaResYel19	6.98	7.60	8.23	8.86	9.52	10.13	10.76	11.39	12.06	12.66
KlaResYel20	1,210.63	1,317.08	1,426.84	1,536.59	1,650.86	1,646.35	1,646.35	1,646.35	1,650.86	1,646.35
KlaResYel3	24.91	24.89	24.89	24.89	24.89	24.89	24.87	24.86	24.82	24.80
KlaResYel4	110.64	120.61	130.66	140.71	150.76	160.76	170.68	180.69	190.37	200.26
KlaResYel5	64.40	70.20	76.05	81.90	87.75	93.57	99.34	105.17	110.80	116.56
KlaResYel6	-	-	-	-	112.04	119.47	126.84	134.28	141.47	148.83
KlaResYel7	73.06	79.64	86.28	92.91	99.55	106.15	112.70	119.31	125.70	132.24
KlaResYel8	90.27	98.40	106.60	114.80	123.00	131.16	139.25	147.42	155.32	163.39
KlaResYel9	88.05	95.98	103.98	111.98	119.97	127.93	135.82	143.79	151.49	159.37
LaGrComMTA	5,110.96	5,560.36	6,023.72	6,023.72	6,040.23	6,023.72	6,023.72	6,023.72	6,040.23	6,023.72
LaGrComMTW	2,866.60	3,114.18	3,366.65	3,618.72	3,601.46	3,589.73	3,575.24	3,566.26	3,560.05	3,537.97
LaGrComRed2	1,218.43	1,325.56	1,436.03	1,546.49	1,661.49	1,767.42	1,767.42	1,767.42	1,772.26	1,767.42
LaGrComYel1	233.14	253.28	273.81	294.31	313.83	333.67	353.09	372.92	392.95	411.07
LaGrComYel10	15.48	16.84	16.84	16.84	16.89	16.84	16.84	16.84	16.89	16.84
LaGrComYel11	527.67	574.07	621.91	669.75	719.55	717.59	717.59	717.59	719.55	717.59
LaGrComYel12	17.06	18.56	20.11	21.66	23.27	24.75	26.30	27.84	29.47	30.94
LaGrComYel13	26.38	28.70	31.10	33.49	35.98	35.88	35.88	35.88	35.98	35.88
LaGrComYel14	26.13	28.39	28.33	28.27	28.14	28.05	27.93	27.86	27.81	27.64
LaGrComYel15	181.87	197.86	197.86	197.86	198.40	197.86	197.86	197.86	198.40	197.86
LaGrComYel16	181.87	197.86	197.86	197.86	198.40	197.86	197.86	197.86	198.40	197.86

Appendix 4.3 - SENDOUT® Selected Measures (High Growth Low Price Case) in Dth

DSM Program	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029
LaGrComYel17	89.35	97.21	105.31	113.41	121.84	121.51	121.51	121.51	121.84	121.51
LaGrComYel18	89.35	97.21	105.31	113.41	121.84	121.51	121.51	121.51	121.84	121.51
LaGrComYel19	128.84	140.17	151.85	163.53	175.69	175.21	175.21	175.21	175.69	175.21
LaGrComYel2	10.20	10.17	10.17	10.17	10.20	10.17	10.17	10.17	10.20	10.17
LaGrComYel20	0.37	0.41	0.55	0.69	0.73	0.78	0.83	0.87	0.92	1.07
LaGrComYel3	211.07	229.63	248.76	267.90	287.82	287.03	287.03	287.03	287.82	287.03
LaGrComYel4	142.47	155.00	155.00	155.00	155.42	155.00	155.00	155.00	155.42	155.00
LaGrComYel5	142.47	155.00	155.00	155.00	155.42	155.00	155.00	155.00	155.42	155.00
LaGrComYel6	116.26	126.49	137.03	147.57	158.54	158.11	158.11	158.11	158.54	158.11
LaGrComYel7	427.72	464.66	502.33	539.94	575.75	612.14	647.77	684.15	720.90	754.14
LaGrComYel8	32.79	35.67	38.65	41.62	44.71	47.56	50.54	53.51	56.64	59.46
LaGrComYel9	15.48	16.84	16.84	16.84	16.89	16.84	16.84	16.84	16.89	16.84
LaGrResMTA	972.18	1,057.66	1,057.66	1,057.66	1,060.56	1,057.66	1,057.66	1,057.66	1,060.56	1,057.66
LaGrResMTW	7,093.81	7,706.50	8,331.26	8,955.04	9,548.94	10,152.35	10,743.32	11,346.73	11,956.24	12,507.44
LaGrResRed1	729.47	726.43	724.91	723.53	720.08	717.74	714.84	713.05	711.80	707.39
LaGrResRed2	1,338.24	1,455.91	1,577.24	1,698.57	1,703.22	1,698.57	1,698.57	1,698.57	1,703.22	1,698.57
LaGrResYel1	138.09	137.51	137.23	136.97	136.31	135.87	135.32	134.98	134.75	133.91
LaGrResYel10	17.38	18.99	20.53	22.16	23.63	25.13	26.59	28.08	29.59	30.96
LaGrResYel11	2,131.35	2,315.44	2,503.15	2,690.57	2,869.00	3,050.30	3,227.86	3,409.15	3,592.28	3,757.89
LaGrResYel12	1,657.72	1,800.89	1,946.89	2,092.66	2,231.45	2,372.46	2,510.56	2,651.56	2,794.00	2,922.80
LaGrResYel13	13.79	14.98	16.19	17.50	18.67	19.85	21.00	22.18	23.48	24.56
LaGrResYel16	569.05	619.08	670.67	722.26	775.97	825.44	877.03	928.62	982.90	1,031.80
LaGrResYel17	3.23	3.52	3.81	4.10	4.41	4.69	4.98	5.28	5.59	5.86
LaGrResYel18	549.80	598.15	647.99	697.84	749.73	797.53	847.37	897.22	949.66	996.91
LaGrResYel19	3.23	3.52	3.81	4.10	4.41	4.69	4.98	5.28	5.59	5.86
LaGrResYel2	19.41	19.33	19.28	19.25	19.16	19.10	19.02	18.97	18.94	18.82
LaGrResYel20	560.80	610.11	660.95	711.79	764.72	762.64	762.64	762.64	764.72	762.64
LaGrResYel3	9.40	9.36	9.34	9.33	9.28	9.25	9.21	9.19	9.18	9.12
LaGrResYel4	42.19	45.84	49.55	53.26	56.80	60.39	63.90	67.49	71.12	74.39
LaGrResYel5	24.56	26.68	28.84	31.00	33.06	35.15	37.19	39.28	41.39	43.30
LaGrResYel6	1,647.45	1,789.73	1,934.83	2,079.69	2,217.62	2,357.75	2,495.00	2,635.13	2,776.68	2,904.69
LaGrResYel7	27.86	30.27	32.72	35.17	37.50	39.87	42.19	44.56	46.96	49.12
LaGrResYel8	34.43	37.40	40.43	43.46	46.34	49.27	52.14	55.06	58.02	60.70
LaGrResYel9	33.58	36.48	39.43	42.39	45.20	48.05	50.85	53.71	56.59	59.20
MedGComRed2	4,458.32	4,850.33	5,254.53	5,658.72	6,079.53	6,467.11	6,467.11	6,467.11	6,484.83	6,467.11
MedGComYel10	77.58	84.40	84.40	84.40	84.63	84.40	84.40	84.40	84.63	84.40
MedGComYel11	2,644.74	2,877.29	3,117.06	3,356.84	3,606.46	3,596.61	3,596.61	3,596.61	3,606.46	3,596.61
MedGComYel12	85.51	93.03	100.79	108.54	116.61	124.04	131.80	139.55	147.70	155.05
MedGComYel13	132.24	143.86	155.85	167.84	180.32	179.83	179.83	179.83	180.32	179.83
MedGComYel14	102.00	110.95	110.11	109.90	109.52	109.14	108.71	108.52	108.30	107.68
MedGComYel15	911.55	991.71	991.71	991.71	994.42	991.71	991.71	991.71	994.42	991.71
MedGComYel16	911.55	991.71	991.71	991.71	994.42	991.71	991.71	991.71	994.42	991.71
MedGComYel17	447.84	487.22	527.82	568.42	610.69	609.03	609.03	609.03	610.69	609.03
MedGComYel18	447.84	487.22	527.82	568.42	610.69	609.03	609.03	609.03	610.69	609.03
MedGComYel19	645.76	702.54	761.08	819.63	880.58	878.17	878.17	878.17	880.58	878.17
MedGComYel20	2.79	3.03	3.27	3.51	3.75	3.98	4.21	4.45	4.69	4.91
MedGComYel9	77.58	84.40	84.40	84.40	84.63	84.40	84.40	84.40	84.63	84.40
MedGResRed1	3,075.40	3,066.44	3,043.28	3,037.30	3,026.84	3,016.39	3,004.43	2,999.21	2,993.23	2,976.05
MedGResRed2	5,295.05	5,760.64	6,240.69	6,720.74	6,739.16	6,720.74	6,720.74	6,720.74	6,739.16	6,720.74
MedGResYel10	74.11	80.61	86.67	93.15	99.47	105.73	111.89	118.27	124.59	130.39
MedGResYel11	8,996.89	9,786.18	10,521.63	11,308.74	12,074.78	12,835.27	13,583.44	14,357.43	15,124.87	15,829.53
MedGResYel12	6,997.58	7,611.47	8,183.49	8,795.68	9,391.50	9,982.99	10,564.90	11,166.89	11,763.79	12,311.86
MedGResYel13	58.60	63.96	68.77	73.91	78.92	83.89	88.78	93.84	98.86	103.46
MedGResYel14	4.02	4.37	4.73	5.10	5.48	5.46	5.46	5.46	5.48	5.46
MedGResYel15	1.46	1.59	1.72	1.85	1.99	1.99	1.99	1.99	1.99	1.99
MedGResYel16	3,084.11	3,355.29	3,634.90	3,914.50	4,205.60	4,473.72	4,753.33	5,032.93	5,327.10	5,592.15
MedGResYel17	17.53	19.07	20.66	22.25	23.90	25.43	27.02	28.60	30.28	31.78

Appendix 4.3 - SENDOUT® Selected Measures (High Growth Low Price Case) in Dth

DSM Program	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029
MedGResYel18	2,979.82	3,241.83	3,511.98	3,782.13	4,063.38	4,322.43	4,592.59	4,862.74	5,146.95	5,403.04
MedGResYel19	17.53	19.07	20.66	22.25	23.90	25.43	27.02	28.60	30.28	31.78
MedGResYel20	3,039.41	3,306.66	3,582.22	3,857.77	4,144.65	4,133.33	4,133.33	4,133.33	4,144.65	4,133.33
MedGTComYel1	910.12	989.96	1,064.36	1,143.98	1,221.47	1,298.40	1,374.09	1,452.38	1,530.02	1,601.30
MedGTComYel2	51.13	50.99	50.99	50.99	51.13	50.99	50.99	50.99	51.13	50.99
MedGTComYel3	1,057.90	1,150.92	1,246.83	1,342.73	1,442.59	1,438.64	1,438.64	1,438.64	1,442.59	1,438.64
MedGTComYel4	714.08	776.87	776.87	776.87	779.00	776.87	776.87	776.87	779.00	776.87
MedGTComYel5	714.08	776.87	776.87	776.87	779.00	776.87	776.87	776.87	779.00	776.87
MedGTComYel6	582.72	633.96	686.79	739.62	794.62	792.45	792.45	792.45	794.62	792.45
MedGTComYel7	1,669.68	1,816.16	1,952.65	2,098.73	2,240.90	2,382.03	2,520.88	2,664.52	2,806.94	2,937.72
MedGTComYel8	164.35	178.80	193.70	208.60	224.11	238.40	253.30	268.20	283.87	298.00
MedGTNComMTA	18,701.37	20,345.76	22,041.24	22,041.24	22,101.62	22,041.24	22,041.24	22,041.24	22,101.62	22,041.24
MedGTNComMTW	11,185.89	12,167.22	13,081.61	14,060.23	14,011.82	13,963.40	13,908.08	13,883.87	13,856.21	13,776.67
MedGTNResMTA	3,846.64	4,184.87	4,184.87	4,184.87	4,196.33	4,184.87	4,184.87	4,184.87	4,196.33	4,184.87
MedGTNResMTW	29,979.99	32,610.12	35,060.84	37,683.69	40,236.36	42,770.50	45,263.59	47,842.74	50,400.05	52,748.16
MedGTResYel1	582.90	581.20	576.82	575.68	573.70	571.72	569.45	568.46	567.33	564.07
MedGTResYel2	82.29	82.05	81.43	81.27	80.99	80.71	80.39	80.25	80.09	79.63
MedGTResYel3	39.97	39.85	39.56	39.48	39.34	39.21	39.05	38.98	38.91	38.68
MedGTResYel4	178.11	193.73	208.29	223.88	239.04	254.10	268.91	284.23	299.42	313.37
MedGTResYel5	103.67	112.76	121.24	130.31	139.13	147.90	156.52	165.43	174.28	182.40
MedGTResYel6	6,954.21	7,564.30	8,132.78	8,741.18	9,333.30	9,921.12	10,499.42	11,097.69	11,690.89	12,235.56
MedGTResYel7	117.61	127.92	137.54	147.83	157.84	167.78	177.56	187.68	197.71	206.92
MedGTResYel8	145.32	158.06	169.94	182.66	195.03	207.31	219.40	231.90	244.29	255.68
MedGTResYel9	141.74	154.17	165.76	178.16	190.23	202.21	213.99	226.19	238.28	249.38
MedNComRed2	2,003.01	2,179.14	2,360.73	2,542.32	2,731.38	2,905.51	2,905.51	2,905.51	2,913.47	2,905.51
MedNComYel10	34.85	37.92	37.92	37.92	38.02	37.92	37.92	37.92	38.02	37.92
MedNComYel11	1,188.22	1,292.69	1,400.42	1,508.14	1,620.30	1,615.87	1,615.87	1,615.87	1,620.30	1,615.87
MedNComYel12	38.42	41.80	45.28	48.76	52.39	55.73	59.21	62.70	66.36	69.66
MedNComYel13	59.41	64.63	70.02	75.41	81.01	80.79	80.79	80.79	81.01	80.79
MedNComYel14	45.67	49.68	49.31	49.22	49.05	48.88	48.68	48.60	48.50	48.22
MedNComYel15	409.54	445.55	445.55	445.55	446.77	445.55	445.55	445.55	446.77	445.55
MedNComYel16	409.54	445.55	445.55	445.55	446.77	445.55	445.55	445.55	446.77	445.55
MedNComYel17	201.20	218.90	237.14	255.38	274.37	273.62	273.62	273.62	274.37	273.62
MedNComYel18	201.20	218.90	237.14	255.38	274.37	273.62	273.62	273.62	274.37	273.62
MedNComYel19	290.12	315.63	341.94	368.24	395.62	394.54	394.54	394.54	395.62	394.54
MedNComYel20	1.11	1.20	1.30	1.50	1.60	1.70	1.80	1.90	2.11	2.21
MedNComYel9	34.85	37.92	37.92	37.92	38.02	37.92	37.92	37.92	38.02	37.92
MedNResRed1	1,383.31	1,379.28	1,368.86	1,366.18	1,361.47	1,356.77	1,351.39	1,349.04	1,346.35	1,338.62
MedNResRed2	2,378.94	2,588.11	2,803.79	3,019.46	3,027.74	3,019.46	3,019.46	3,019.46	3,027.74	3,019.46
MedNResYel10	33.18	36.09	38.81	41.72	44.54	47.35	50.11	52.96	55.79	58.49
MedNResYel11	4,042.08	4,396.69	4,727.11	5,080.74	5,424.90	5,766.57	6,102.70	6,450.44	6,795.23	7,111.82
MedNResYel12	3,143.84	3,419.65	3,676.64	3,951.68	4,219.37	4,485.11	4,746.55	5,017.01	5,285.18	5,531.41
MedNResYel13	26.33	28.64	30.80	33.10	35.34	37.57	39.76	42.02	44.27	46.33
MedNResYel14	1.80	1.96	2.13	2.29	2.46	2.45	2.45	2.45	2.46	2.45
MedNResYel16	1,385.61	1,507.45	1,633.07	1,758.69	1,889.47	2,009.93	2,135.55	2,261.17	2,393.33	2,512.42
MedNResYel17	7.88	8.57	9.28	10.00	10.74	11.42	12.14	12.85	13.60	14.28
MedNResYel18	1,338.76	1,456.47	1,577.85	1,699.22	1,825.58	1,941.96	2,063.34	2,184.71	2,312.40	2,427.45
MedNResYel19	7.88	8.57	9.28	10.00	10.74	11.42	12.14	12.85	13.60	14.28
MedNResYel20	1,365.53	1,485.60	1,609.40	1,733.20	1,862.09	1,857.00	1,857.00	1,857.00	1,862.09	1,857.00
MedNWComYel1	408.89	444.76	478.19	513.96	548.78	583.34	617.34	652.52	687.40	719.42
MedNWComYel2	22.97	22.91	22.91	22.91	22.97	22.91	22.91	22.91	22.97	22.91
MedNWComYel3	475.29	517.08	560.17	603.26	648.12	646.35	646.35	646.35	648.12	646.35
MedNWComYel4	320.82	349.03	349.03	349.03	349.98	349.03	349.03	349.03	349.98	349.03
MedNWComYel5	320.82	349.03	349.03	349.03	349.98	349.03	349.03	349.03	349.98	349.03
MedNWComYel6	261.80	284.82	308.56	332.29	357.01	356.03	356.03	356.03	357.01	356.03
MedNWComYel7	750.15	815.96	877.28	942.91	1,006.78	1,070.19	1,132.57	1,197.10	1,261.09	1,319.84
MedNWComYel8	73.84	80.33	87.02	93.72	100.69	107.11	113.80	120.49	127.54	133.88

Appendix 4.3 - SENDOUT® Selected Measures (High Growth Low Price Case) in Dth

DSM Program	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029
MedNWPComMTA	8,402.07	9,140.85	9,902.58	9,902.58	9,929.71	9,902.58	9,902.58	9,902.58	9,929.71	9,902.58
MedNWPComMTW	5,026.86	5,467.86	5,878.78	6,318.56	6,296.81	6,275.05	6,250.19	6,239.31	6,226.88	6,191.14
MedNWPResMTA	1,728.20	1,880.16	1,880.16	1,880.16	1,885.31	1,880.16	1,880.16	1,880.16	1,885.31	1,880.16
MedNWPResMTW	13,450.24	14,630.22	15,729.71	16,906.43	18,051.66	19,188.58	20,307.08	21,464.19	22,611.50	23,664.96
MedNWResYel1	261.88	261.12	259.15	258.64	257.75	256.86	255.84	255.40	254.89	253.42
MedNWResYel2	36.85	36.74	36.47	36.40	36.27	36.15	36.00	35.94	35.87	35.66
MedNWResYel3	17.96	17.90	17.77	17.74	17.68	17.61	17.54	17.51	17.48	17.38
MedNWResYel4	80.02	87.04	93.58	100.58	107.40	114.16	120.81	127.70	134.52	140.79
MedNWResYel5	46.42	50.49	54.29	58.46	62.42	66.35	70.32	74.33	78.30	81.95
MedNWResYel6	3,124.36	3,398.45	3,653.86	3,927.19	4,193.22	4,457.32	4,717.13	4,985.92	5,252.43	5,497.13
MedNWResYel7	52.66	57.28	61.70	66.32	70.91	75.38	79.77	84.32	88.83	92.96
MedNWResYel8	65.29	71.01	76.35	82.06	87.62	93.14	98.57	104.19	109.76	114.87
MedNWResYel9	63.68	69.27	74.47	80.04	85.46	90.85	96.14	101.62	107.05	112.04
RosComMTA	8,026.91	8,732.70	9,460.43	9,460.43	9,486.35	9,460.43	9,460.43	9,460.43	9,486.35	9,460.43
RosComMTW	4,812.18	5,219.50	5,618.68	6,029.10	5,993.92	5,958.74	5,940.32	5,863.26	5,828.08	5,789.55
RosComRed2	1,913.58	2,081.84	2,255.32	2,428.81	2,609.42	2,775.78	2,775.78	2,775.78	2,783.39	2,775.78
RosComYel1	391.37	424.49	456.96	490.34	522.30	553.85	586.64	613.09	643.27	672.65
RosComYel10	37.57	40.87	40.87	40.87	40.98	40.87	40.87	40.87	40.98	40.87
RosComYel11	1,280.70	1,393.31	1,509.41	1,625.52	1,746.40	1,741.63	1,741.63	1,741.63	1,746.40	1,741.63
RosComYel12	41.41	45.05	48.80	52.56	56.47	60.07	63.82	67.58	71.52	75.08
RosComYel13	64.03	69.67	75.47	81.28	87.32	87.08	87.08	87.08	87.32	87.08
RosComYel14	43.79	47.50	47.20	47.03	46.75	46.48	46.33	45.74	45.47	45.17
RosComYel15	441.41	480.23	480.23	480.23	481.54	480.23	480.23	480.23	481.54	480.23
RosComYel16	441.41	480.23	480.23	480.23	481.54	480.23	480.23	480.23	481.54	480.23
RosComYel17	216.86	235.93	255.59	275.26	295.72	294.92	294.92	294.92	295.72	294.92
RosComYel18	216.86	235.93	255.59	275.26	295.72	294.92	294.92	294.92	295.72	294.92
RosComYel19	312.70	340.20	368.55	396.90	426.41	425.25	425.25	425.25	426.41	425.25
RosComYel2	24.76	24.69	24.69	24.69	24.76	24.69	24.69	24.69	24.76	24.69
RosComYel20	1.04	1.13	1.22	1.41	1.50	1.59	1.68	1.77	1.96	2.05
RosComYel3	512.28	557.32	603.77	650.21	698.56	696.65	696.65	696.65	698.56	696.65
RosComYel4	345.79	376.19	376.19	376.19	377.22	376.19	376.19	376.19	377.22	376.19
RosComYel5	345.79	376.19	376.19	376.19	377.22	376.19	376.19	376.19	377.22	376.19
RosComYel6	282.18	306.99	332.57	358.16	384.79	383.74	383.74	383.74	384.79	383.74
RosComYel7	718.00	778.77	838.33	899.57	958.20	1,016.08	1,076.25	1,124.77	1,180.14	1,234.04
RosComYel8	79.58	86.58	93.80	101.01	108.52	115.44	122.66	129.87	137.46	144.30
RosComYel9	37.57	40.87	40.87	40.87	40.98	40.87	40.87	40.87	40.98	40.87
RosResMTA	1,278.17	1,390.55	1,390.55	1,390.55	1,394.36	1,390.55	1,390.55	1,390.55	1,394.36	1,390.55
RosResMTW	9,986.36	10,831.64	11,660.03	12,511.76	13,327.23	14,132.28	14,969.11	15,644.04	16,414.08	17,163.75
RosResRed1	1,020.02	1,014.16	1,007.75	1,004.12	998.26	992.40	989.33	976.50	970.64	964.22
RosResRed2	1,759.45	1,914.15	2,073.66	2,233.18	2,239.30	2,233.18	2,233.18	2,233.18	2,239.30	2,233.18
RosResYel1	194.05	192.94	191.72	191.03	189.91	188.80	188.21	185.77	184.66	183.44
RosResYel10	24.56	26.64	28.67	30.77	32.87	34.86	36.92	38.59	40.49	42.34
RosResYel11	2,995.10	3,248.62	3,497.07	3,752.52	3,997.09	4,238.54	4,489.52	4,691.95	4,922.90	5,147.74
RosResYel12	2,329.52	2,526.70	2,719.94	2,918.62	3,108.85	3,296.64	3,491.85	3,649.29	3,828.92	4,003.80
RosResYel13	19.48	21.13	22.75	24.41	26.00	27.57	29.20	30.53	32.04	33.50
RosResYel14	1.51	1.64	1.77	1.91	2.05	2.05	2.05	2.05	2.05	2.05
RosResYel16	1,156.18	1,257.84	1,362.66	1,467.48	1,576.60	1,677.11	1,781.93	1,886.75	1,997.03	2,096.39
RosResYel17	6.57	7.15	7.74	8.34	8.96	9.53	10.13	10.72	11.35	11.91
RosResYel18	1,117.08	1,215.30	1,316.58	1,417.85	1,523.29	1,620.40	1,721.68	1,822.95	1,929.50	2,025.50
RosResYel19	6.57	7.15	7.74	8.34	8.96	9.53	10.13	10.72	11.35	11.91
RosResYel2	27.27	27.11	26.94	26.84	26.68	26.53	26.44	26.11	25.96	25.78
RosResYel20	1,139.42	1,239.61	1,342.91	1,446.21	1,553.75	1,549.51	1,549.51	1,549.51	1,553.75	1,549.51
RosResYel3	13.29	13.21	13.13	13.08	13.00	12.93	12.89	12.73	12.65	12.57
RosResYel4	59.20	64.31	69.23	74.29	79.13	83.91	88.88	92.89	97.46	101.91
RosResYel5	34.45	37.37	40.23	43.17	45.98	48.76	51.64	53.99	56.64	59.23
RosResYel6	420.92	418.51	415.86	414.36	411.94	409.53	408.26	402.96	400.55	397.90
RosResYel7	39.09	42.40	45.64	48.97	52.16	55.31	58.59	61.25	64.26	67.19

Appendix 4.3 - SENDOUT® Selected Measures (High Growth Low Price Case) in Dth

DSM Program	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029
RosResYel8	48.30	52.38	56.39	60.61	64.56	68.46	72.51	75.78	79.51	83.15
RosResYel9	47.11	51.09	55.00	59.02	62.97	66.77	70.73	73.92	77.56	81.10
SpoBComYel10	2,044.76	2,224.55	2,409.93	2,595.31	2,788.30	2,966.06	3,151.44	3,336.82	3,531.85	3,707.58
SpoBComYel11	2,250.64	2,448.54	2,652.59	2,856.63	3,069.06	3,060.68	3,060.68	3,060.68	3,069.06	3,060.68
SpoBComYel12	985.71	1,072.38	1,161.74	1,251.11	1,344.15	1,340.47	1,340.47	1,340.47	1,344.15	1,340.47
SpoBoComMTA	5,412.06	5,887.93	6,378.60	6,869.26	7,380.08	7,850.58	7,850.58	7,850.58	7,872.09	7,850.58
SpoBoComMTW	11,686.65	12,697.43	13,708.20	14,720.97	15,735.22	16,731.26	17,754.45	18,712.42	19,698.53	20,679.01
SpoBoComRed1	17,132.13	18,613.88	20,095.64	21,580.30	23,067.15	24,527.31	26,027.26	27,431.60	28,877.19	30,314.54
SpoBoComRed2	1,438.92	1,565.44	1,695.90	1,826.35	1,962.16	2,087.26	2,217.71	2,217.71	2,223.79	2,217.71
SpoBoComYel1	133.22	144.94	157.01	169.09	181.67	181.17	181.17	181.17	181.67	181.17
SpoBoComYel2	195.12	194.59	194.59	194.59	195.12	194.59	194.59	194.59	195.12	194.59
SpoBoComYel3	4,150.07	4,514.98	4,891.22	5,267.47	5,659.18	5,643.72	5,643.72	5,643.72	5,659.18	5,643.72
SpoBoComYel4	1,090.00	1,185.84	1,284.66	1,383.48	1,486.36	1,581.12	1,679.94	1,778.76	1,882.72	1,976.40
SpoBoComYel5	444.75	483.85	524.17	564.49	606.47	604.81	604.81	604.81	606.47	604.81
SpoBoComYel6	686.41	745.78	805.15	864.63	924.20	982.70	1,042.80	1,099.07	1,156.99	1,214.57
SpoBoComYel7	598.83	651.48	705.77	760.06	816.58	814.35	814.35	814.35	816.58	814.35
SpoBoComYel8	238.09	259.02	280.61	302.19	324.66	323.77	323.77	323.77	324.66	323.77
SpoBoComYel9	1,624.90	1,767.78	1,915.10	2,062.41	2,215.78	2,209.72	2,209.72	2,209.72	2,215.78	2,209.72
SpoBoResMTA	139,240.87	138,860.43	138,860.43	138,860.43	139,240.87	138,860.43	138,860.43	138,860.43	139,240.87	138,860.43
SpoBoResMTW	1,121,802.23	1,218,826.59	1,315,850.87	1,413,065.93	1,510,423.96	1,606,034.09	1,704,250.18	1,796,205.63	1,890,862.33	1,984,978.78
SpoBoResRed1	380,384.76	413,284.12	446,183.50	479,147.51	512,160.03	544,579.85	577,883.32	609,063.90	607,415.16	605,766.42
SpoBoResRed2	30,426.04	33,101.35	35,859.80	38,618.25	41,490.05	41,376.69	41,376.69	41,376.69	41,490.05	41,376.69
SpoBoResYel1	1,135.94	1,131.33	1,127.44	1,124.25	1,121.60	1,118.06	1,116.64	1,111.51	1,108.50	1,105.49
SpoBoResYel2	20,640.04	22,425.19	24,210.34	25,999.00	27,790.29	29,549.42	31,356.50	33,048.39	34,789.98	36,521.63
SpoBoResYel3	166.07	165.40	164.83	164.36	163.98	163.46	163.25	162.50	162.06	161.62
SpoBoResYel4	1,972.94	2,143.58	2,314.22	2,485.19	2,656.42	2,824.57	2,997.30	3,159.03	3,325.50	3,491.03
SpoBoResYel5	394.59	428.72	462.84	497.04	531.28	564.91	599.46	631.81	665.10	698.21
SpoBoResYel6	1,972.94	2,143.58	2,314.22	2,485.19	2,656.42	2,824.57	2,997.30	3,159.03	3,325.50	3,491.03
SpoBoResYel7	394.59	428.72	462.84	497.04	531.28	564.91	599.46	631.81	665.10	698.21
SpoBoResYel8	737.57	801.36	865.15	929.07	993.08	1,055.94	1,120.52	1,180.98	1,243.22	1,305.10
SpoBoResYel9	748.44	813.17	877.90	942.76	1,007.72	1,071.51	1,137.03	1,198.38	1,261.54	1,324.33
SpoBResYel10	232.50	252.61	272.72	292.87	313.05	332.86	353.22	372.28	391.89	411.40
SpoBResYel11	16,304.16	17,714.30	19,124.44	20,537.35	21,952.34	23,341.93	24,769.39	26,105.87	27,481.60	28,849.47
SpoBResYel12	23,250.13	25,261.03	27,271.93	29,286.78	31,304.59	33,286.18	35,321.77	37,227.62	39,189.44	41,140.07
SpoBResYel13	153.45	166.72	179.99	193.29	206.61	219.69	233.12	245.70	258.65	271.52
SpoBResYel14	10,481.24	11,387.76	12,294.28	13,202.58	14,112.22	15,005.53	15,923.18	16,782.34	17,666.74	18,546.09
SpoBResYel15	75,563.53	82,099.00	88,634.47	95,182.78	101,740.73	108,180.94	114,796.68	120,990.71	127,366.70	133,706.29
SpoBResYel16	192.06	208.68	225.29	241.93	258.60	274.97	291.79	307.53	323.74	339.85
SpoBResYel17	15.27	16.61	17.99	19.38	20.82	20.76	20.76	20.76	20.82	20.76
SpoBResYel18	5.55	6.04	6.54	7.05	7.57	7.55	7.55	7.55	7.57	7.55
SpoBResYel19	91.34	99.24	98.90	98.62	98.39	98.08	97.95	97.50	97.24	96.97
SpoBResYel20	4,642.79	5,051.02	5,471.94	5,892.86	6,331.07	6,734.69	7,155.61	7,576.53	8,019.36	8,418.37
SpoBResYel21	60.69	66.03	71.53	77.03	82.76	88.04	93.54	99.04	104.83	110.04
SpoBResYel22	488.49	531.44	575.73	620.02	666.13	708.59	752.88	797.17	843.76	885.74
SpoBResYel23	60.69	66.03	71.53	77.03	82.76	88.04	93.54	99.04	104.83	110.04
SpoBResYel24	11,550.35	12,565.95	13,613.11	14,660.28	15,750.47	15,707.44	15,707.44	15,707.44	15,750.47	15,707.44
SpoBResYel25	1,824.51	1,982.31	2,140.12	2,298.23	2,456.57	2,448.82	2,445.72	2,434.48	2,427.89	2,421.30
SpoGComYel10	268.16	291.74	316.06	340.37	365.68	388.99	413.30	437.62	463.19	486.24
SpoGComYel11	295.17	321.12	347.88	374.64	402.50	428.16	454.92	481.68	509.83	535.20
SpoGComYel12	129.27	140.64	152.36	164.08	176.28	175.80	175.80	175.80	176.28	175.80
SpoGResYel10	30.49	33.13	35.77	38.41	41.06	43.65	46.32	48.82	51.40	53.95
SpoGResYel11	2,138.25	2,323.19	2,508.12	2,693.42	2,879.00	3,061.24	3,248.45	3,423.72	3,604.14	3,783.54
SpoGResYel12	3,049.20	3,312.92	3,576.65	3,840.89	4,105.52	4,365.40	4,632.36	4,882.31	5,139.60	5,395.42
SpoGResYel13	20.12	21.87	23.61	25.35	27.10	28.81	30.57	32.22	33.92	35.61
SpoGResYel14	1,374.59	1,493.48	1,612.36	1,731.49	1,850.78	1,967.94	2,088.29	2,200.96	2,316.95	2,432.27
SpoGResYel15	9,909.97	10,767.08	11,624.19	12,482.99	13,343.05	14,187.66	15,055.30	15,867.63	16,703.83	17,535.25
SpoGResYel16	25.19	27.37	29.55	31.73	33.91	36.06	38.27	40.33	42.46	44.57

Appendix 4.3 - SENDOUT® Selected Measures (High Growth Low Price Case) in Dth

DSM Program	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029
SpoGResYel17	2.00	2.18	2.36	2.54	2.73	2.72	2.72	2.72	2.73	2.72
SpoGResYel19	11.86	12.88	12.84	12.80	12.77	12.73	12.72	12.66	12.63	12.59
SpoGResYel20	608.89	662.43	717.63	772.83	830.30	883.24	938.44	993.64	1,051.72	1,104.05
SpoGResYel21	7.96	8.66	9.38	10.10	10.85	11.55	12.27	12.99	13.75	14.43
SpoGResYel22	67.65	73.60	79.74	85.87	92.26	98.14	104.27	110.40	116.86	122.67
SpoGResYel23	7.96	8.66	9.38	10.10	10.85	11.55	12.27	12.99	13.75	14.43
SpoGResYel24	1,514.80	1,647.99	1,785.33	1,922.66	2,065.64	2,059.99	2,059.99	2,059.99	2,065.64	2,059.99
SpoGResYel25	239.28	259.98	280.67	301.41	322.17	321.16	320.75	319.28	318.41	317.55
SpoGTComRed1	2,246.84	2,441.17	2,635.49	2,830.20	3,025.20	3,216.70	3,413.41	3,597.59	3,787.17	3,975.68
SpoGTComRed2	188.71	205.30	222.41	239.52	257.33	273.74	290.85	290.85	291.64	290.85
SpoGTComYel1	17.47	19.01	20.59	22.18	23.83	23.76	23.76	23.76	23.83	23.76
SpoGTComYel2	25.59	25.52	25.52	25.52	25.59	25.52	25.52	25.52	25.59	25.52
SpoGTComYel3	544.27	592.13	641.47	690.82	742.19	740.16	740.16	740.16	742.19	740.16
SpoGTComYel4	142.95	155.52	168.48	181.44	194.93	207.36	220.32	233.28	246.91	259.20
SpoGTComYel5	58.33	63.46	68.74	74.03	79.54	79.32	79.32	79.32	79.54	79.32
SpoGTComYel6	90.02	97.81	105.59	113.39	121.21	128.88	136.76	144.14	151.74	159.29
SpoGTComYel7	78.53	85.44	92.56	99.68	107.09	106.80	106.80	106.80	107.09	106.80
SpoGTComYel8	26.47	28.80	31.20	33.60	36.10	36.00	36.00	36.00	36.10	36.00
SpoGTComYel9	213.10	231.84	251.16	270.48	290.59	289.80	289.80	289.80	290.59	289.80
SpoGTNComMTA	709.78	772.19	836.54	900.89	967.88	1,029.58	1,029.58	1,029.58	1,032.40	1,029.58
SpoGTNComMTW	1,523.56	1,655.34	1,787.11	1,919.14	2,051.37	2,181.22	2,314.61	2,439.50	2,568.05	2,695.88
SpoGTNResMTA	18,261.10	18,211.20	18,211.20	18,211.20	18,261.10	18,211.20	18,211.20	18,211.20	18,261.10	18,211.20
SpoGTNResMTW	146,843.84	159,544.32	172,244.80	184,970.24	197,714.40	210,229.76	223,086.24	235,123.20	247,513.76	259,833.60
SpoGTResRed1	49,886.53	54,201.20	58,515.87	62,839.02	67,168.53	71,420.31	75,787.98	79,877.23	79,661.00	79,444.78
SpoGTResRed2	3,990.30	4,341.16	4,702.92	5,064.69	5,441.32	5,426.45	5,426.45	5,426.45	5,441.32	5,426.45
SpoGTResYel1	148.98	148.37	147.86	147.44	147.09	146.63	146.45	145.77	145.38	144.98
SpoGTResYel2	2,706.89	2,941.01	3,175.13	3,409.71	3,644.63	3,875.33	4,112.33	4,334.21	4,562.62	4,789.72
SpoGTResYel3	21.78	21.69	21.62	21.56	21.51	21.44	21.41	21.31	21.25	21.20
SpoGTResYel4	258.75	281.13	303.50	325.93	348.38	370.44	393.09	414.30	436.13	457.84
SpoGTResYel5	51.75	56.23	60.70	65.19	69.68	74.09	78.62	82.86	87.23	91.57
SpoGTResYel6	258.75	281.13	303.50	325.93	348.38	370.44	393.09	414.30	436.13	457.84
SpoGTResYel7	51.75	56.23	60.70	65.19	69.68	74.09	78.62	82.86	87.23	91.57
SpoGTResYel8	96.73	105.10	113.46	121.85	130.24	138.48	146.95	154.88	163.04	171.16
SpoGTResYel9	98.16	106.65	115.13	123.64	132.16	140.53	149.12	157.17	165.45	173.68
SpoNComYel10	1,039.14	1,130.51	1,224.72	1,318.93	1,417.01	1,507.34	1,601.55	1,695.76	1,794.88	1,884.18
SpoNComYel11	1,143.77	1,244.34	1,348.04	1,451.73	1,559.69	1,555.43	1,555.43	1,555.43	1,559.69	1,555.43
SpoNComYel12	500.93	544.98	590.40	635.81	683.09	681.22	681.22	681.22	683.09	681.22
SpoNResYel10	118.16	128.38	138.60	148.83	159.09	169.16	179.50	189.19	199.16	209.07
SpoNResYel11	8,285.72	9,002.35	9,718.98	10,437.02	11,156.11	11,862.29	12,587.73	13,266.92	13,966.06	14,661.21
SpoNResYel12	11,815.64	12,837.57	13,859.50	14,883.44	15,908.89	16,915.93	17,950.41	18,918.95	19,915.95	20,907.25
SpoNResYel13	77.98	84.73	91.47	98.23	105.00	111.65	118.47	124.87	131.45	137.99
SpoNResYel14	5,326.53	5,787.22	6,247.91	6,709.51	7,171.78	7,625.76	8,092.11	8,528.73	8,978.18	9,425.06
SpoNResYel15	38,401.14	41,722.44	45,043.75	48,371.58	51,704.30	54,977.20	58,339.30	61,487.08	64,727.34	67,949.10
SpoNResYel16	97.61	106.05	114.49	122.95	131.42	139.74	148.28	156.29	164.52	172.71
SpoNResYel17	7.76	8.44	9.14	9.85	10.58	10.55	10.55	10.55	10.58	10.55
SpoNResYel18	2.82	3.07	3.32	3.58	3.85	3.84	3.84	3.84	3.85	3.84
SpoNResYel19	46.42	50.43	50.26	50.12	50.00	49.84	49.78	49.55	49.42	49.28
SpoNResYel20	2,359.45	2,566.91	2,780.82	2,994.73	3,217.43	3,422.55	3,636.46	3,850.37	4,075.41	4,278.19
SpoNResYel21	30.84	33.55	36.35	39.15	42.06	44.74	47.54	50.33	53.27	55.92
SpoNResYel22	262.16	285.21	308.98	332.75	357.49	380.28	404.05	427.82	452.82	475.35
SpoNResYel23	30.84	33.55	36.35	39.15	42.06	44.74	47.54	50.33	53.27	55.92
SpoNResYel24	5,869.85	6,385.98	6,918.14	7,450.30	8,004.34	7,982.47	7,982.47	7,982.47	8,004.34	7,982.47
SpoNResYel25	927.21	1,007.41	1,087.60	1,167.95	1,248.42	1,244.48	1,242.91	1,237.19	1,233.84	1,230.49
SpoNWComRed1	8,706.49	9,459.51	10,212.54	10,967.04	11,722.65	12,464.70	13,226.97	13,940.65	14,675.30	15,405.75
SpoNWComRed2	731.25	795.55	861.85	928.14	997.17	1,060.74	1,127.03	1,127.03	1,130.12	1,127.03
SpoNWComYel1	67.70	73.66	79.79	85.93	92.32	92.07	92.07	92.07	92.32	92.07
SpoNWComYel2	99.16	98.89	98.89	98.89	99.16	98.89	98.89	98.89	99.16	98.89

Appendix 4.3 - SENDOUT® Selected Measures (High Growth Low Price Case) in Dth

DSM Program	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029
SpoNWComYel3	2,109.05	2,294.50	2,485.70	2,676.91	2,875.98	2,868.12	2,868.12	2,868.12	2,875.98	2,868.12
SpoNWComYel4	553.93	602.64	652.86	703.08	755.36	803.52	853.74	903.96	956.79	1,004.40
SpoNWComYel5	226.02	245.89	266.38	286.87	308.21	307.36	307.36	307.36	308.21	307.36
SpoNWComYel6	348.83	379.00	409.17	439.40	469.68	499.41	529.95	558.54	587.98	617.24
SpoNWComYel7	304.32	331.08	358.67	386.26	414.98	413.85	413.85	413.85	414.98	413.85
SpoNwComYel8	102.58	111.60	120.90	130.20	139.88	139.50	139.50	139.50	139.88	139.50
SpoNWComYel9	825.77	898.38	973.24	1,048.11	1,126.05	1,122.98	1,122.98	1,122.98	1,126.05	1,122.98
SpoNWPComMTA	2,750.39	2,992.23	3,241.58	3,490.93	3,750.53	3,989.64	3,989.64	3,989.64	4,000.57	3,989.64
SpoNWPComMTW	5,903.81	6,414.43	6,925.04	7,436.67	7,949.04	8,452.22	8,969.11	9,453.05	9,951.21	10,446.52
SpoNWPResMTA	70,761.76	70,568.42	70,568.42	70,568.42	70,761.76	70,568.42	70,568.42	70,568.42	70,761.76	70,568.42
SpoNWPResMTW	569,725.86	619,001.29	668,276.70	717,648.96	767,093.85	815,651.02	865,531.71	912,232.80	960,305.81	1,008,104.40
SpoNWResRed1	193,310.29	210,029.64	226,748.99	243,501.19	260,278.05	276,753.70	293,678.41	309,524.28	308,686.40	307,848.51
SpoNWResRed2	15,462.41	16,822.00	18,223.83	19,625.67	21,085.11	21,027.50	21,027.50	21,027.50	21,085.11	21,027.50
SpoNWResYel1	577.28	574.94	572.96	571.34	569.99	568.19	567.47	564.87	563.34	561.81
SpoNWResYel2	10,489.20	11,396.41	12,303.62	13,212.61	14,122.94	15,016.92	15,935.27	16,795.08	17,680.15	18,560.17
SpoNWResYel3	84.40	84.06	83.77	83.53	83.33	83.07	82.96	82.58	82.36	82.14
SpoNWResYel4	1,002.64	1,089.36	1,176.08	1,262.97	1,349.98	1,435.44	1,523.22	1,605.41	1,690.01	1,774.13
SpoNWResYel5	200.53	217.87	235.22	252.59	270.00	287.09	304.64	321.08	338.00	354.83
SpoNWResYel6	1,002.64	1,089.36	1,176.08	1,262.97	1,349.98	1,435.44	1,523.22	1,605.41	1,690.01	1,774.13
SpoNWResYel7	200.53	217.87	235.22	252.59	270.00	287.09	304.64	321.08	338.00	354.83
SpoNWResYel8	374.83	407.25	439.67	472.15	504.68	536.63	569.44	600.17	631.80	663.25
SpoNWResYel9	380.35	413.25	446.15	479.11	512.12	544.54	577.84	609.01	641.11	673.02
Total	3,422,328.51	3,697,358.23	3,971,359.62	4,241,877.10	4,509,973.28	4,760,566.91	5,017,071.09	5,257,940.63	5,451,730.10	5,640,674.84
WA/ID	3,105,933.78	3,354,136.74	3,603,255.05	3,852,844.71	4,103,825.60	4,340,392.14	4,583,618.25	4,811,199.92	4,991,177.33	5,168,015.00
OR	272,083.29	295,243.72	316,709.66	334,892.88	349,861.12	362,267.71	373,952.22	385,992.22	398,268.95	409,028.72

Appendix 4.3 - SENDOUT® Selected Measures (Low Growth High Price Case) in Dth

DSM Program	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
KlaComRed2	227.31	454.62	683.79	909.23	1,136.54	1,363.85	1,595.52	1,818.47	2,045.78	2,273.09
KlaComYel10	2.60	5.20	7.81	10.39	12.99	15.59	18.23	20.78	23.38	25.98
KlaComYel11	88.55	177.11	266.39	354.21	442.77	531.32	621.57	708.43	796.98	885.53
KlaComYel12	2.86	5.73	8.61	11.45	14.32	17.18	20.10	22.91	25.77	28.63
KlaComYel13	4.43	8.86	13.32	17.71	22.14	26.57	31.08	35.42	39.85	44.28
KlaComYel14	5.50	11.01	16.59	22.05	27.27	32.63	37.92	43.20	48.42	53.51
KlaComYel15	30.52	61.04	91.82	122.09	152.61	183.13	214.24	244.17	274.69	305.21
KlaComYel16	30.52	61.04	91.82	122.09	152.61	183.13	214.24	244.17	274.69	305.21
KlaComYel17	15.00	29.99	45.11	59.98	74.98	89.97	105.25	119.96	134.96	149.95
KlaComYel18	15.00	29.99	45.11	59.98	74.98	89.97	105.25	119.96	134.96	149.95
KlaComYel19	21.62	43.24	65.04	86.49	108.11	129.73	151.77	172.97	194.60	216.22
KlaComYel20	-	-	-	0.11	0.37	0.66	0.76	0.98	1.10	1.32
KlaComYel9	2.60	5.20	7.81	10.39	12.99	15.59	18.23	20.78	23.38	25.98
KlamComMTA	953.49	1,906.99	2,868.32	3,813.98	4,767.47	5,720.97	6,692.75	7,627.96	8,581.45	9,534.94
KlamComMTW	611.04	1,222.08	1,829.02	2,417.89	2,989.99	3,577.05	4,157.90	4,735.83	5,308.93	5,866.90
KlamComYel1	49.73	99.46	148.85	196.77	243.33	291.11	338.38	385.41	432.06	477.46
KlamComYel2	1.71	3.42	5.15	6.85	8.56	10.27	12.02	13.70	15.41	17.12
KlamComYel3	35.42	70.84	106.56	141.69	177.11	212.53	248.63	283.37	318.79	354.21
KlamComYel4	23.91	47.82	71.92	95.64	119.55	143.46	167.82	191.28	215.18	239.09
KlamComYel5	23.91	47.82	71.92	95.64	119.55	143.46	167.82	191.28	215.18	239.09
KlamComYel6	19.51	39.02	58.69	78.05	97.56	117.07	136.95	156.09	175.60	195.11
KlamComYel7	91.23	182.46	273.08	361.00	446.42	534.06	620.79	707.08	792.64	875.95
KlamComYel8	5.50	11.01	16.55	22.01	27.51	33.02	38.63	44.02	49.53	55.03
KlamResMTA	211.52	423.03	636.29	846.07	1,057.58	1,269.10	1,484.68	1,692.14	1,903.65	2,115.17
KlamResMTW	1,767.46	3,534.92	5,290.51	6,993.87	8,648.68	10,346.76	12,026.91	13,698.61	15,356.33	16,970.25
KlamResYel1	37.78	75.57	113.10	149.51	184.89	221.19	257.11	292.85	328.28	362.79
KlamResYel2	5.27	10.53	15.88	21.11	26.10	31.23	36.30	41.34	46.35	51.22
KlaResRed1	666.30	1,332.61	1,994.44	1,977.43	1,956.25	1,950.28	1,943.12	1,936.56	1,929.70	1,919.26
KlaResRed2	291.16	582.32	875.88	1,164.65	1,455.81	1,746.97	2,043.71	2,329.29	2,620.45	2,911.61
KlaResYel10	4.31	8.62	12.91	17.19	21.37	25.57	29.72	33.85	37.94	41.93
KlaResYel11	530.17	1,060.34	1,586.95	2,097.90	2,594.28	3,103.64	3,607.62	4,109.06	4,606.32	5,090.43
KlaResYel12	412.36	824.71	1,234.30	1,631.70	2,017.77	2,413.94	2,805.92	3,195.94	3,582.69	3,959.23
KlaResYel13	3.24	6.84	10.24	13.54	16.86	20.29	23.58	26.86	30.11	33.27
KlaResYel14	-	-	-	-	-	-	-	-	1.31	1.45
KlaResYel16	111.37	222.74	335.03	445.48	556.85	668.22	781.73	890.97	1,002.34	1,113.71
KlaResYel17	-	1.17	1.90	2.53	3.16	3.80	4.44	5.06	5.70	6.33
KlaResYel18	107.60	215.21	323.70	430.42	538.02	645.63	755.30	860.84	968.44	1,076.05
KlaResYel19	-	1.17	1.90	2.53	3.16	3.80	4.44	5.06	5.70	6.33
KlaResYel20	109.76	219.51	330.17	439.03	548.78	658.54	770.40	878.05	987.81	1,097.57
KlaResYel3	5.13	10.27	15.48	20.57	25.44	25.36	25.27	25.18	25.10	24.96
KlaResYel4	10.36	20.99	31.42	41.53	51.36	61.44	71.42	81.35	91.19	100.77
KlaResYel5	6.03	12.06	18.19	24.17	29.89	35.76	41.57	47.35	53.08	58.65
KlaResYel6	-	-	-	-	-	-	-	60.45	67.77	74.89
KlaResYel7	6.84	13.69	20.74	27.42	33.91	40.57	47.16	53.71	60.21	66.54
KlaResYel8	8.46	17.03	25.63	33.88	41.90	50.13	58.27	66.37	74.40	82.22
KlaResYel9	8.25	16.61	25.00	33.05	40.87	48.89	56.83	64.73	72.57	80.20
LaGrComMTA	463.36	926.73	1,393.90	1,853.45	2,316.82	2,780.18	3,252.43	3,706.91	4,170.27	4,633.63
LaGrComMTW	306.30	600.45	886.41	1,161.69	1,429.09	1,681.09	1,931.43	2,169.33	2,392.43	2,607.78
LaGrComRed2	110.46	220.93	332.30	441.85	552.32	662.78	775.36	883.71	994.17	1,104.64
LaGrComYel1	25.06	49.13	72.53	95.06	116.94	137.56	158.05	177.51	195.77	213.39
LaGrComYel10	1.40	2.81	4.22	5.61	7.02	8.42	9.85	11.23	12.63	14.03
LaGrComYel11	47.84	95.68	143.91	191.36	239.20	287.03	335.79	382.71	430.55	478.39
LaGrComYel12	1.55	3.09	4.65	6.19	7.73	9.28	10.86	12.37	13.92	15.47
LaGrComYel13	2.39	4.78	7.20	9.57	11.96	14.35	16.79	19.14	21.53	23.92
LaGrComYel14	2.66	5.45	8.04	10.54	12.97	15.26	17.63	19.81	21.84	23.92
LaGrComYel15	16.49	32.98	49.60	65.95	82.44	98.93	115.74	131.91	148.40	164.89

Appendix 4.3 - SENDOUT® Selected Measures (Low Growth High Price Case) in Dth

DSM Program	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
LaGrComYel16	16.49	32.98	49.60	65.95	82.44	98.93	115.74	131.91	148.40	164.89
LaGrComYel17	8.10	16.20	24.37	32.40	40.50	48.60	56.86	64.81	72.91	81.01
LaGrComYel18	8.10	16.20	24.37	32.40	40.50	48.60	56.86	64.81	72.91	81.01
LaGrComYel19	11.68	23.36	35.14	46.72	58.40	70.08	81.99	93.45	105.13	116.81
LaGrComYel2	-	1.85	2.78	3.70	4.62	5.55	6.49	7.40	8.32	9.25
LaGrComYel20	-	-	-	-	-	-	-	0.11	0.12	0.34
LaGrComYel3	19.14	38.27	57.56	76.54	95.68	114.81	134.32	153.09	172.22	191.36
LaGrComYel4	12.92	25.83	38.86	51.67	64.58	77.50	90.66	103.33	116.25	129.17
LaGrComYel5	12.92	25.83	38.86	51.67	64.58	77.50	90.66	103.33	116.25	129.17
LaGrComYel6	10.54	21.08	31.71	42.16	52.70	63.24	73.99	84.32	94.86	105.41
LaGrComYel7	45.98	90.14	133.07	174.40	214.54	252.37	289.95	325.66	359.16	391.49
LaGrComYel8	2.97	5.95	8.94	11.89	14.86	17.84	20.87	23.78	26.75	29.73
LaGrComYel9	1.40	2.81	4.22	5.61	7.02	8.42	9.85	11.23	12.63	14.03
LaGrResMTA	88.14	176.28	265.14	352.55	440.69	528.83	618.66	705.11	793.25	881.39
LaGrResMTW	763.87	1,497.44	2,210.60	2,897.12	3,563.96	4,192.44	4,816.76	5,410.04	5,966.42	6,503.48
LaGrResRed1	287.97	564.51	833.36	819.12	806.13	790.24	778.21	764.81	749.74	735.51
LaGrResRed2	121.33	242.65	364.98	485.30	606.63	727.96	851.61	970.61	1,091.94	1,213.26
LaGrResYel1	16.16	32.01	47.26	61.93	76.19	89.62	102.97	115.65	127.55	139.03
LaGrResYel10	1.79	3.50	5.40	7.08	8.71	10.25	11.78	13.23	14.59	15.91
LaGrResYel11	229.13	449.17	663.09	869.02	1,069.05	1,257.57	1,444.84	1,622.80	1,789.69	1,950.79
LaGrResYel12	178.21	349.36	515.74	675.91	831.48	978.11	1,123.76	1,262.18	1,391.98	1,517.28
LaGrResYel13	1.34	2.78	4.10	5.62	6.91	8.13	9.34	10.50	11.58	12.62
LaGrResYel16	51.59	103.18	155.19	206.36	257.95	309.54	362.12	412.72	464.31	515.90
LaGrResYel17	-	-	-	-	1.47	1.76	2.06	2.35	2.64	2.93
LaGrResYel18	49.85	99.69	149.95	199.38	249.23	299.07	349.87	398.76	448.61	498.45
LaGrResYel19	-	-	-	-	1.47	1.76	2.06	2.35	2.64	2.93
LaGrResYel2	2.18	4.38	6.60	8.65	10.64	12.52	14.38	16.16	17.93	19.54
LaGrResYel20	50.84	101.68	152.94	203.37	254.21	305.05	356.87	406.74	457.58	508.42
LaGrResYel3	2.13	4.27	6.43	8.43	10.37	10.17	10.01	9.85	9.65	9.47
LaGrResYel4	4.40	8.80	12.99	17.13	21.07	24.90	28.60	32.13	35.43	38.62
LaGrResYel5	2.50	5.12	7.56	9.91	12.19	14.34	16.47	18.61	20.53	22.48
LaGrResYel6	177.11	347.19	512.54	671.72	826.33	972.05	1,116.80	1,254.36	1,383.36	1,507.88
LaGrResYel7	2.84	5.81	8.57	11.24	13.83	16.27	18.80	21.12	23.39	25.50
LaGrResYel8	3.50	7.18	10.59	13.89	17.19	20.22	23.34	26.21	28.91	31.51
LaGrResYel9	3.42	7.00	10.33	13.55	16.67	19.72	22.76	25.57	28.19	30.73
MedGComRed2	404.19	808.39	1,215.91	1,616.78	2,020.97	2,425.17	2,837.11	3,233.56	3,637.75	4,041.95
MedGComYel10	7.03	14.07	21.16	28.13	35.17	42.20	49.37	56.27	63.30	70.33
MedGComYel11	239.77	479.55	721.29	959.10	1,198.87	1,438.64	1,683.02	1,918.19	2,157.97	2,397.74
MedGComYel12	7.75	15.51	23.32	31.01	38.76	46.52	54.42	62.02	69.77	77.53
MedGComYel13	11.99	23.98	36.06	47.95	59.94	71.93	84.15	95.91	107.90	119.89
MedGComYel14	10.35	20.50	30.20	39.79	49.25	58.49	67.61	76.44	84.94	93.11
MedGComYel15	82.64	165.28	248.61	330.57	413.21	495.85	580.08	661.14	743.78	826.42
MedGComYel16	82.64	165.28	248.61	330.57	413.21	495.85	580.08	661.14	743.78	826.42
MedGComYel17	40.60	81.20	122.14	162.41	203.01	243.61	284.99	324.81	365.42	406.02
MedGComYel18	40.60	81.20	122.14	162.41	203.01	243.61	284.99	324.81	365.42	406.02
MedGComYel19	58.54	117.09	176.12	234.18	292.72	351.27	410.94	468.36	526.90	585.45
MedGComYel20	-	0.12	0.56	0.87	1.19	1.53	1.76	2.09	2.32	2.55
MedGComYel9	7.03	14.07	21.16	28.13	35.17	42.20	49.37	56.27	63.30	70.33
MedGResRed1	1,150.25	2,279.53	3,357.88	3,318.18	3,285.98	3,252.27	3,211.82	3,177.37	3,138.42	3,096.47
MedGResRed2	480.05	960.11	1,444.10	1,920.21	2,400.27	2,880.32	3,369.58	3,840.42	4,320.48	4,800.53
MedGResYel10	7.42	14.90	21.94	28.91	35.78	42.50	48.96	55.35	61.71	67.65
MedGResYel11	915.24	1,813.80	2,671.83	3,520.32	4,357.69	5,175.59	5,963.09	6,741.85	7,491.61	8,212.76
MedGResYel12	711.86	1,410.73	2,078.09	2,738.03	3,389.31	4,025.46	4,637.96	5,243.66	5,826.81	6,387.70
MedGResYel13	5.80	11.82	17.41	22.94	28.39	33.72	38.85	43.92	48.80	53.50
MedGResYel14	-	-	-	1.46	1.82	2.19	2.56	2.91	3.28	3.64
MedGResYel15	-	-	-	-	-	-	-	-	0.71	1.32

Appendix 4.3 - SENDOUT® Selected Measures (Low Growth High Price Case) in Dth

DSM Program	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
MedGResYel16	279.61	559.21	841.12	1,118.43	1,398.04	1,677.64	1,962.61	2,236.86	2,516.47	2,796.07
MedGResYel17	1.59	3.18	4.78	6.36	7.95	9.53	11.15	12.71	14.30	15.89
MedGResYel18	270.15	540.30	812.68	1,080.61	1,350.76	1,620.91	1,896.25	2,161.22	2,431.37	2,701.52
MedGResYel19	1.59	3.18	4.78	6.36	7.95	9.53	11.15	12.71	14.30	15.89
MedGResYel20	275.56	551.11	828.93	1,102.22	1,377.78	1,653.33	1,934.17	2,204.44	2,480.00	2,755.55
MedGTComYel1	92.59	183.48	270.28	356.11	440.82	523.56	603.22	682.00	757.84	830.80
MedGTComYel2	4.64	9.27	13.94	18.54	23.18	27.81	32.54	37.09	41.72	46.36
MedGTComYel3	95.91	191.82	288.52	383.64	479.55	575.46	673.21	767.28	863.19	959.10
MedGTComYel4	64.74	129.48	194.75	258.96	323.69	388.43	454.41	517.91	582.65	647.39
MedGTComYel5	64.74	129.48	194.75	258.96	323.69	388.43	454.41	517.91	582.65	647.39
MedGTComYel6	52.83	105.66	158.92	211.32	264.15	316.98	370.82	422.64	475.47	528.30
MedGTComYel7	169.86	336.61	495.85	653.32	808.72	960.51	1,106.66	1,251.18	1,390.33	1,524.16
MedGTComYel8	14.90	29.80	44.82	59.60	74.50	89.40	104.58	119.20	134.10	149.00
MedGTNComMTA	1,695.48	3,390.96	5,100.37	6,781.92	8,477.40	10,172.88	11,900.87	13,563.84	15,259.32	16,954.80
MedGTNComMTW	1,137.93	2,255.11	3,321.90	4,376.84	5,417.94	6,434.84	7,413.95	8,382.19	9,314.37	10,210.98
MedGTNResMTA	348.74	697.48	1,049.08	1,394.96	1,743.69	2,092.43	2,447.86	2,789.91	3,138.65	3,487.39
MedGTNResMTW	3,049.83	6,044.06	8,903.24	11,730.64	14,520.97	17,246.42	19,870.59	22,465.63	24,964.02	27,367.08
MedGTResYel1	65.03	129.27	190.42	250.89	310.57	368.86	424.98	480.48	533.92	585.31
MedGTResYel2	9.18	18.19	26.80	35.31	43.70	51.91	59.80	67.83	75.38	82.63
MedGTResYel3	8.95	17.73	26.12	34.41	42.60	42.16	41.63	41.18	40.68	40.13
MedGTResYel4	18.06	35.80	52.73	69.69	86.27	102.46	118.05	133.47	148.31	162.59
MedGTResYel5	10.51	20.84	30.69	40.44	50.05	59.44	68.71	77.68	86.32	94.63
MedGTResYel6	707.44	1,401.99	2,065.21	2,721.06	3,368.31	4,000.51	4,609.22	5,211.17	5,790.70	6,348.12
MedGTResYel7	11.93	23.64	34.82	45.87	56.78	67.65	77.95	88.13	97.93	107.36
MedGTResYel8	14.74	29.21	43.02	56.68	70.38	83.60	96.31	108.89	121.00	132.65
MedGTResYel9	14.38	28.49	41.96	55.28	68.65	81.54	93.94	106.21	118.02	129.38
MedNComRed2	181.59	363.19	546.28	726.38	907.97	1,089.57	1,274.65	1,452.76	1,634.35	1,815.95
MedNComYel10	3.16	6.32	9.51	12.64	15.80	18.96	22.18	25.28	28.44	31.60
MedNComYel11	107.72	215.45	324.06	430.90	538.62	646.35	756.14	861.80	969.52	1,077.25
MedNComYel12	3.48	6.97	10.48	13.93	17.42	20.90	24.45	27.86	31.35	34.83
MedNComYel13	5.39	10.77	16.20	21.54	26.93	32.32	37.81	43.09	48.48	53.86
MedNComYel14	4.52	9.21	13.57	17.87	22.13	26.28	30.27	34.23	38.03	41.69
MedNComYel15	37.13	74.26	111.69	148.52	185.65	222.77	260.62	297.03	334.16	371.29
MedNComYel16	37.13	74.26	111.69	148.52	185.65	222.77	260.62	297.03	334.16	371.29
MedNComYel17	18.24	36.48	54.87	72.97	91.21	109.45	128.04	145.93	164.17	182.41
MedNComYel18	18.24	36.48	54.87	72.97	91.21	109.45	128.04	145.93	164.17	182.41
MedNComYel19	26.30	52.61	79.12	105.21	131.51	157.82	184.62	210.42	236.72	263.03
MedNComYel20	-	-	-	0.11	0.24	0.49	0.57	0.75	0.83	0.92
MedNComYel9	3.16	6.32	9.51	12.64	15.80	18.96	22.18	25.28	28.44	31.60
MedNResRed1	516.78	1,024.14	1,508.61	1,490.78	1,476.31	1,461.16	1,442.99	1,427.51	1,410.01	1,391.17
MedNResRed2	215.68	431.35	648.80	862.70	1,078.38	1,294.06	1,513.87	1,725.41	1,941.08	2,156.76
MedNResYel10	3.28	6.51	9.86	12.99	16.08	19.09	22.00	24.87	27.63	30.29
MedNResYel11	411.20	814.90	1,200.39	1,581.59	1,957.80	2,325.26	2,679.07	3,028.95	3,365.80	3,689.79
MedNResYel12	319.82	633.81	933.63	1,230.13	1,522.74	1,808.54	2,083.72	2,355.85	2,617.84	2,869.84
MedNResYel13	2.61	5.16	7.82	10.30	12.76	15.15	17.45	19.73	21.93	24.03
MedNResYel14	-	-	-	-	-	-	-	1.31	1.47	1.64
MedNResYel16	125.62	251.24	377.89	502.48	628.10	753.72	881.75	1,004.97	1,130.59	1,256.21
MedNResYel17	-	1.43	2.15	2.86	3.57	4.28	5.01	5.71	6.43	7.14
MedNResYel18	121.37	242.75	365.12	485.49	606.86	728.24	851.94	970.98	1,092.35	1,213.73
MedNResYel19	-	1.43	2.15	2.86	3.57	4.28	5.01	5.71	6.43	7.14
MedNResYel20	123.80	247.60	372.42	495.20	619.00	742.80	868.98	990.40	1,114.20	1,238.00
MedNWComYel1	41.47	82.43	121.43	159.99	198.05	235.22	271.01	306.41	340.48	373.26
MedNWComYel2	2.08	4.17	6.27	8.33	10.41	12.50	14.62	16.66	18.74	20.83
MedNWComYel3	43.09	86.18	129.62	172.36	215.45	258.54	302.46	344.72	387.81	430.90
MedNWComYel4	29.09	58.17	87.50	116.34	145.43	174.51	204.16	232.69	261.77	290.86
MedNWComYel5	29.09	58.17	87.50	116.34	145.43	174.51	204.16	232.69	261.77	290.86

Appendix 4.3 - SENDOUT® Selected Measures (Low Growth High Price Case) in Dth

DSM Program	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
MedNWComYel6	23.74	47.47	71.40	94.94	118.68	142.41	166.60	189.88	213.62	237.35
MedNWComYel7	76.31	151.23	222.77	293.52	363.34	431.53	497.19	562.13	624.64	684.77
MedNWComYel8	6.69	13.39	20.14	26.78	33.47	40.16	46.99	53.55	60.25	66.94
MedNWPComMTA	761.74	1,523.47	2,291.47	3,046.95	3,808.69	4,570.42	5,346.77	6,093.90	6,855.64	7,617.37
MedNWPComMTW	511.38	1,013.43	1,492.84	1,966.92	2,434.78	2,891.77	3,331.78	3,766.90	4,185.81	4,588.74
MedNWPResMTA	156.68	313.36	471.33	626.72	783.40	940.08	1,099.76	1,253.44	1,410.12	1,566.80
MedNWPResMTW	1,370.58	2,716.17	4,001.08	5,271.70	6,525.66	7,750.47	8,929.76	10,095.96	11,218.72	12,298.65
MedNWResYel1	29.22	57.90	85.55	112.72	139.53	165.72	190.93	215.87	239.87	262.97
MedNWResYel2	4.01	8.17	12.04	15.86	19.64	23.32	26.87	30.37	33.75	37.00
MedNWResYel3	3.91	7.97	11.73	15.46	19.14	18.94	18.70	18.50	18.28	18.03
MedNWResYel4	8.12	16.08	23.69	31.21	38.63	45.88	52.86	59.77	66.63	73.05
MedNWResYel5	4.59	9.36	13.79	18.17	22.49	26.71	30.77	34.79	38.65	42.37
MedNWResYel6	317.84	629.88	927.85	1,222.51	1,513.30	1,797.33	2,070.81	2,341.25	2,601.62	2,852.05
MedNWResYel7	5.21	10.62	15.64	20.61	25.51	30.30	34.91	39.46	43.85	48.07
MedNWResYel8	6.44	13.12	19.33	25.46	31.52	37.44	43.13	48.76	54.18	59.60
MedNWResYel9	6.28	12.80	18.85	24.84	30.74	36.51	42.07	47.56	52.85	57.93
RosComMTA	727.73	1,455.45	2,189.16	2,910.90	3,638.63	4,366.35	5,108.03	5,821.80	6,549.53	7,277.25
RosComMTW	494.55	979.52	1,444.17	1,898.77	2,345.36	2,784.29	3,215.69	3,635.84	4,022.51	4,416.83
RosComRed2	173.49	346.97	521.88	693.95	867.43	1,040.92	1,217.73	1,387.89	1,561.38	1,734.86
RosComYel1	40.18	79.70	117.51	154.50	190.84	226.55	261.65	295.84	327.30	359.39
RosComYel10	3.41	6.81	10.25	13.62	17.03	20.44	23.91	27.25	30.65	34.06
RosComYel11	116.11	232.22	349.28	464.44	580.54	696.65	814.99	928.87	1,044.98	1,161.09
RosComYel12	3.75	7.51	11.29	15.02	18.77	22.53	26.35	30.03	33.79	37.54
RosComYel13	5.81	11.61	17.46	23.22	29.03	34.83	40.75	46.44	52.25	58.05
RosComYel14	4.33	8.89	13.11	17.23	21.28	25.27	29.18	33.10	36.62	40.21
RosComYel15	40.02	80.04	120.39	160.08	200.09	240.11	280.90	320.15	360.17	400.19
RosComYel16	40.02	80.04	120.39	160.08	200.09	240.11	280.90	320.15	360.17	400.19
RosComYel17	19.66	39.32	59.14	78.64	98.31	117.97	138.00	157.29	176.95	196.61
RosComYel18	19.66	39.32	59.14	78.64	98.31	117.97	138.00	157.29	176.95	196.61
RosComYel19	28.35	56.70	85.28	113.40	141.75	170.10	198.99	226.80	255.15	283.50
RosComYel2	2.24	4.49	6.75	8.98	11.22	13.47	15.76	17.96	20.20	22.45
RosComYel20	-	-	-	-	0.12	0.37	0.53	0.71	0.79	0.86
RosComYel3	46.44	92.89	139.71	185.77	232.22	278.66	326.00	371.55	417.99	464.44
RosComYel4	31.35	62.70	94.31	125.40	156.75	188.10	220.05	250.79	282.14	313.49
RosComYel5	31.35	62.70	94.31	125.40	156.75	188.10	220.05	250.79	282.14	313.49
RosComYel6	25.58	51.17	76.96	102.33	127.91	153.50	179.57	204.66	230.24	255.83
RosComYel7	73.82	146.22	215.58	283.44	350.11	415.63	480.03	542.75	600.47	659.33
RosComYel8	7.22	14.43	21.70	28.86	36.08	43.29	50.64	57.72	64.94	72.15
RosComYel9	3.41	6.81	10.25	13.62	17.03	20.44	23.91	27.25	30.65	34.06
RosResMTA	115.88	231.76	348.59	463.52	579.40	695.28	813.38	927.04	1,042.91	1,158.79
RosResMTW	1,026.72	2,033.58	2,998.22	3,942.01	4,869.16	5,780.42	6,676.04	7,548.32	8,351.07	9,169.72
RosResRed1	387.03	766.57	1,130.20	1,114.48	1,101.28	1,089.49	1,078.54	1,067.02	1,049.33	1,036.98
RosResRed2	159.51	319.03	479.85	638.05	797.56	957.08	1,119.65	1,276.10	1,435.61	1,595.13
RosResYel1	21.85	43.41	64.00	84.27	104.08	123.56	142.71	161.36	178.52	196.01
RosResYel10	2.44	4.82	7.37	9.69	11.97	14.21	16.41	18.56	20.53	22.55
RosResYel11	307.96	609.95	899.29	1,182.37	1,460.46	1,733.79	2,002.42	2,264.05	2,504.83	2,750.38
RosResYel12	239.52	474.41	699.45	919.62	1,135.91	1,348.50	1,557.44	1,760.93	1,948.20	2,139.18
RosResYel13	1.93	3.83	5.75	7.69	9.50	11.28	13.02	14.72	16.29	17.89
RosResYel14	-	-	-	-	-	-	-	-	1.13	1.37
RosResYel16	104.82	209.64	315.32	419.28	524.10	628.92	735.75	838.56	943.38	1,048.20
RosResYel17	-	0.71	1.79	2.38	2.98	3.57	4.18	4.77	5.36	5.96
RosResYel18	101.28	202.55	304.66	405.10	506.38	607.65	710.87	810.20	911.48	1,012.75
RosResYel19	-	0.71	1.79	2.38	2.98	3.57	4.18	4.77	5.36	5.96
RosResYel2	2.98	6.01	9.01	11.84	14.62	17.36	20.05	22.67	25.08	27.54
RosResYel20	103.30	206.60	310.75	413.20	516.50	619.80	725.08	826.40	929.70	1,033.01
RosResYel3	2.90	5.86	8.78	11.54	14.25	14.10	13.96	13.81	13.58	13.42

Appendix 4.3 - SENDOUT® Selected Measures (Low Growth High Price Case) in Dth

DSM Program	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
RosResYel4	5.97	12.02	17.72	23.30	28.77	34.27	39.58	44.75	49.51	54.36
RosResYel5	3.41	7.00	10.31	13.56	16.75	19.88	22.96	25.96	28.72	31.64
RosResYel6	238.04	471.47	463.41	456.96	451.55	446.71	442.22	437.50	430.25	425.18
RosResYel7	3.87	7.94	11.70	15.38	19.00	22.55	26.05	29.55	32.69	35.89
RosResYel8	4.78	9.81	14.46	19.01	23.47	27.87	32.29	36.51	40.39	44.35
RosResYel9	4.66	9.56	14.10	18.54	22.90	27.18	31.50	35.61	39.40	43.26
SpoBComYel10	185.38	370.76	557.66	741.52	926.89	1,112.27	1,301.21	1,483.03	1,668.41	1,853.79
SpoBComYel11	204.04	408.09	613.81	816.18	1,020.22	1,224.27	1,432.23	1,632.36	1,836.41	2,040.45
SpoBComYel12	89.36	178.73	268.83	357.46	446.83	536.19	627.27	714.92	804.29	893.65
SpoBoComMTA	490.66	981.32	1,476.02	1,962.64	2,453.31	2,943.97	3,444.04	3,925.29	4,415.95	4,906.61
SpoBoComMTW	1,141.97	2,274.03	3,362.04	4,439.16	5,515.12	6,591.42	7,607.99	8,614.32	9,615.38	10,624.35
SpoBoComRed1	1,679.53	3,344.50	4,944.68	6,528.84	8,111.30	9,694.25	11,189.35	12,669.40	14,141.69	15,625.63
SpoBoComRed2	130.45	260.91	392.43	521.81	652.27	782.72	915.68	1,043.63	1,174.08	1,304.54
SpoBoComYel1	12.08	24.16	36.33	48.31	60.39	72.47	84.78	96.62	108.70	120.78
SpoBoComYel2	17.69	35.38	53.22	70.76	88.45	106.14	124.17	141.52	159.21	176.90
SpoBoComYel3	376.25	752.50	1,131.84	1,504.99	1,881.24	2,257.49	2,640.95	3,009.98	3,386.23	3,762.48
SpoBoComYel4	98.82	197.64	297.27	395.28	494.10	592.92	693.64	790.56	889.38	988.20
SpoBoComYel5	40.32	80.64	121.29	161.28	201.61	241.93	283.02	322.57	362.89	403.21
SpoBoComYel6	67.29	134.00	198.11	261.58	324.99	388.41	448.31	507.61	566.60	626.05
SpoBoComYel7	54.29	108.58	163.32	217.16	271.45	325.74	381.07	434.32	488.61	542.90
SpoBoComYel8	21.58	43.17	64.93	86.34	107.93	129.51	151.51	172.68	194.26	215.85
SpoBoComYel9	147.31	294.63	443.16	589.26	736.58	883.89	1,034.03	1,178.52	1,325.83	1,473.15
SpoBoResMTA	12,623.68	25,247.35	37,974.78	50,494.70	63,118.38	75,742.05	88,607.83	100,989.41	113,613.08	126,236.76
SpoBoResMTW	110,036.98	219,120.02	323,958.02	427,746.69	531,424.08	635,133.25	733,086.99	830,055.01	926,514.23	1,023,736.61
SpoBoResRed1	37,290.62	74,257.95	109,786.68	144,959.80	180,095.20	215,241.37	248,437.08	281,298.73	313,987.96	346,935.82
SpoBoResRed2	2,758.45	5,516.89	8,298.01	11,033.78	13,792.23	16,550.68	19,362.02	22,067.57	24,826.02	27,584.46
SpoBoResYel1	122.50	243.93	360.64	476.18	591.60	707.05	816.09	924.04	1,031.42	1,139.65
SpoBoResYel2	2,023.42	4,029.31	5,957.13	7,865.66	9,772.14	11,679.20	13,480.43	15,263.54	17,037.29	18,825.07
SpoBoResYel3	35.82	71.32	105.45	139.23	172.98	172.28	170.45	168.87	167.55	166.62
SpoBoResYel4	193.42	385.15	569.43	751.86	934.10	1,116.39	1,288.57	1,459.01	1,628.56	1,799.45
SpoBoResYel5	38.68	77.03	113.89	150.37	186.82	223.28	257.71	291.80	325.71	359.89
SpoBoResYel6	193.42	385.15	569.43	751.86	934.10	1,116.39	1,288.57	1,459.01	1,628.56	1,799.45
SpoBoResYel7	38.68	77.03	113.89	150.37	186.82	223.28	257.71	291.80	325.71	359.89
SpoBoResYel8	72.31	143.99	212.88	281.08	349.21	417.35	481.72	545.44	608.83	672.71
SpoBoResYel9	73.37	146.11	216.01	285.22	354.35	423.51	488.82	553.48	617.80	682.62
SpoBResYel10	22.79	45.39	67.10	88.60	110.08	131.56	151.85	171.94	191.92	212.06
SpoBResYel11	1,598.36	3,182.86	4,705.71	6,213.31	7,719.29	9,225.73	10,648.58	12,057.10	13,458.24	14,870.46
SpoBResYel12	2,279.30	4,538.84	6,710.46	8,860.33	11,007.90	13,156.13	15,185.14	17,193.73	19,191.78	21,205.65
SpoBResYel13	14.89	29.96	44.29	58.48	72.65	86.83	100.22	113.48	126.67	139.96
SpoBResYel14	1,027.52	2,046.13	3,025.10	3,994.27	4,962.40	5,930.83	6,845.51	7,751.00	8,651.72	9,559.58
SpoBResYel15	7,407.79	14,751.36	21,809.15	28,796.30	35,775.96	42,757.76	49,352.09	55,880.07	62,373.79	68,918.89
SpoBResYel16	18.64	37.49	55.43	73.19	90.93	108.68	125.44	142.03	158.54	175.18
SpoBResYel17	1.38	2.77	4.16	5.54	6.92	8.30	9.71	11.07	12.46	13.84
SpoBResYel18	-	-	1.51	2.01	2.52	3.02	3.53	4.03	4.53	5.03
SpoBResYel19	8.87	17.65	26.36	34.81	43.25	51.68	59.66	67.55	75.40	83.31
SpoBResYel20	420.92	841.84	1,266.21	1,683.67	2,104.59	2,525.51	2,954.50	3,367.35	3,788.26	4,209.18
SpoBResYel21	5.50	11.00	16.55	22.01	27.51	33.01	38.62	44.02	49.52	55.02
SpoBResYel22	44.29	88.57	133.23	177.15	221.44	265.72	310.86	354.30	398.58	442.87
SpoBResYel23	5.50	11.00	16.55	22.01	27.51	33.01	38.62	44.02	49.52	55.02
SpoBResYel24	1,047.16	2,094.33	3,150.09	4,188.65	5,235.81	6,282.98	7,350.22	8,377.30	9,424.46	10,471.63
SpoBResYel25	178.86	356.18	526.59	695.30	863.83	1,032.40	1,191.63	1,349.25	1,506.04	1,664.08
SpoGComYel10	24.31	48.62	73.14	97.25	121.56	145.87	170.65	194.50	218.81	243.12
SpoGComYel11	26.76	53.52	80.50	107.04	133.80	160.56	187.83	214.08	240.84	267.60
SpoGComYel12	11.72	23.44	35.26	46.88	58.60	70.32	82.26	93.76	105.48	117.20
SpoGResYel10	2.82	5.89	8.71	11.50	14.29	17.08	19.91	22.55	25.17	27.81
SpoGResYel11	209.62	417.42	617.14	814.86	1,012.37	1,209.93	1,396.53	1,581.26	1,765.01	1,950.22

Appendix 4.3 - SENDOUT® Selected Measures (Low Growth High Price Case) in Dth

DSM Program	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
SpoGResYel12	298.92	595.26	880.06	1,162.01	1,443.66	1,725.39	1,991.49	2,254.92	2,516.96	2,781.07
SpoGResYel13	1.77	3.81	5.75	7.59	9.43	11.27	13.01	14.73	16.44	18.17
SpoGResYel14	134.76	268.34	396.73	523.84	650.81	777.81	897.77	1,016.52	1,134.65	1,253.72
SpoGResYel15	971.51	1,934.60	2,860.22	3,776.56	4,691.93	5,607.57	6,472.41	7,328.53	8,180.17	9,038.54
SpoGResYel16	2.33	4.87	7.20	9.50	11.80	14.11	16.28	18.43	20.79	22.97
SpoGResYel17	-	-	-	-	-	-	1.27	1.45	1.63	1.81
SpoGResYel19	0.87	2.20	3.25	4.42	5.61	6.71	7.74	8.77	9.79	10.81
SpoGResYel20	55.20	110.40	166.06	220.81	276.01	331.21	387.48	441.62	496.82	552.02
SpoGResYel21	-	1.44	2.17	2.89	3.61	4.33	5.07	5.77	6.49	7.22
SpoGResYel22	6.13	12.27	18.45	24.53	30.67	36.80	43.05	49.07	55.20	61.34
SpoGResYel23	-	1.44	2.17	2.89	3.61	4.33	5.07	5.77	6.49	7.22
SpoGResYel24	137.33	274.67	413.13	549.33	686.66	824.00	963.96	1,098.66	1,236.00	1,373.33
SpoGResYel25	23.46	46.71	69.06	91.19	113.29	135.40	156.28	176.95	197.51	218.24
SpoGTComRed1	220.27	438.62	648.48	856.24	1,063.78	1,271.38	1,467.46	1,661.56	1,854.65	2,049.26
SpoGTComRed2	17.11	34.22	51.47	68.43	85.54	102.65	120.09	136.87	153.98	171.09
SpoGTComYel1	1.58	3.17	4.77	6.34	7.92	9.50	11.12	12.67	14.26	15.84
SpoGTComYel2	2.32	4.64	6.98	9.28	11.60	13.92	16.28	18.56	20.88	23.20
SpoGTComYel3	49.34	98.69	148.44	197.38	246.72	296.06	346.35	394.75	444.10	493.44
SpoGTComYel4	12.96	25.92	38.99	51.84	64.80	77.76	90.97	103.68	116.64	129.60
SpoGTComYel5	5.29	10.58	15.91	21.15	26.44	31.73	37.12	42.30	47.59	52.88
SpoGTComYel6	8.74	17.40	25.98	34.31	42.62	50.94	58.79	66.57	74.31	82.11
SpoGTComYel7	7.12	14.24	21.42	28.48	35.60	42.72	49.98	56.96	64.08	71.20
SpoGTComYel8	2.40	4.80	7.22	9.60	12.00	14.40	16.85	19.20	21.60	24.00
SpoGTComYel9	19.32	38.64	58.12	77.28	96.60	115.92	135.61	154.56	173.88	193.20
SpoGTNComMTA	64.35	128.70	193.58	257.40	321.75	386.09	451.68	514.79	579.14	643.49
SpoGTNComMTW	145.34	289.42	427.90	564.98	701.92	838.91	968.29	1,096.37	1,223.78	1,352.19
SpoGTNResMTA	1,655.56	3,311.13	4,980.30	6,622.26	8,277.82	9,933.38	11,620.70	13,244.51	14,900.08	16,555.64
SpoGTNResMTW	14,430.29	28,735.47	42,483.96	56,094.84	69,691.13	83,291.58	96,137.27	108,853.68	121,503.38	134,253.15
SpoGTResRed1	4,890.57	9,738.75	14,398.25	19,011.12	23,619.04	28,228.38	32,581.91	36,891.64	41,178.75	45,499.78
SpoGTResRed2	361.76	723.53	1,088.26	1,447.05	1,808.82	2,170.58	2,539.28	2,894.11	3,255.87	3,617.63
SpoGTResYel1	15.90	31.99	47.30	62.45	77.59	92.73	107.03	121.19	135.27	149.46
SpoGTResYel2	265.37	528.43	781.26	1,031.56	1,281.59	1,531.70	1,767.93	2,001.78	2,234.40	2,468.86
SpoGTResYel3	4.55	9.26	13.69	18.07	22.69	22.59	22.35	22.15	21.97	21.85
SpoGTResYel4	25.37	50.51	74.68	98.60	122.50	146.41	168.99	191.35	213.58	235.99
SpoGTResYel5	5.02	10.00	14.78	19.62	24.50	29.28	33.80	38.27	42.72	47.20
SpoGTResYel6	25.37	50.51	74.68	98.60	122.50	146.41	168.99	191.35	213.58	235.99
SpoGTResYel7	5.02	10.00	14.78	19.62	24.50	29.28	33.80	38.27	42.72	47.20
SpoGTResYel8	9.39	18.69	27.92	36.86	45.80	54.74	63.18	71.53	79.85	88.22
SpoGTResYel9	9.53	18.97	28.33	37.41	46.47	55.54	64.11	72.59	81.02	89.52
SpoNComYel10	94.21	188.42	283.40	376.84	471.05	565.25	661.27	753.67	847.88	942.09
SpoNComYel11	103.70	207.39	311.94	414.78	518.48	622.17	727.85	829.56	933.26	1,036.95
SpoNComYel12	45.42	90.83	136.62	181.66	227.08	272.49	318.78	363.32	408.73	454.15
SpoNResYel10	11.47	23.07	34.10	45.03	55.94	66.86	77.17	87.38	97.53	107.77
SpoNResYel11	812.28	1,617.52	2,391.42	3,157.58	3,922.92	4,688.49	5,411.57	6,127.38	6,839.43	7,557.12
SpoNResYel12	1,158.33	2,306.63	3,410.23	4,502.79	5,594.18	6,685.90	7,717.04	8,737.80	9,753.20	10,776.64
SpoNResYel13	7.57	15.07	22.51	29.72	36.92	44.13	50.93	57.67	64.37	71.13
SpoNResYel14	522.18	1,039.84	1,537.34	2,029.87	2,521.88	3,014.03	3,478.87	3,939.03	4,396.78	4,858.15
SpoNResYel15	3,764.62	7,496.59	11,083.34	14,634.19	18,181.23	21,729.35	25,080.57	28,398.07	31,698.16	35,024.36
SpoNResYel16	9.47	18.86	28.17	37.20	46.21	55.23	63.75	72.18	80.57	89.02
SpoNResYel17	-	1.41	2.12	2.81	3.52	4.22	4.94	5.63	6.33	7.03
SpoNResYel18	-	-	-	-	1.18	1.53	1.80	2.05	2.30	2.56
SpoNResYel19	4.41	8.97	13.26	17.51	21.98	26.27	30.32	34.33	38.32	42.34
SpoNResYel20	213.91	427.82	643.49	855.64	1,069.55	1,283.46	1,501.47	1,711.27	1,925.18	2,139.09
SpoNResYel21	2.80	5.59	8.41	11.18	13.98	16.78	19.63	22.37	25.17	27.96
SpoNResYel22	23.77	47.54	71.50	95.07	118.84	142.61	166.83	190.14	213.91	237.68
SpoNResYel23	2.80	5.59	8.41	11.18	13.98	16.78	19.63	22.37	25.17	27.96

Appendix 4.3 - SENDOUT® Selected Measures (Low Growth High Price Case) in Dth

DSM Program	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019
SpoNResYel24	532.16	1,064.33	1,600.87	2,128.66	2,660.82	3,192.99	3,735.36	4,257.32	4,789.48	5,321.65
SpoNResYel25	90.90	181.01	267.61	353.35	438.99	524.66	605.58	685.68	765.37	845.68
SpoNWComRed1	853.53	1,699.66	2,512.87	3,317.93	4,122.14	4,926.58	5,686.39	6,438.55	7,186.76	7,940.89
SpoNWComRed2	66.30	132.59	199.43	265.18	331.48	397.78	465.34	530.37	596.66	662.96
SpoNWComYel1	6.14	12.28	18.46	24.55	30.69	36.83	43.08	49.10	55.24	61.38
SpoNWComYel2	8.99	17.98	27.04	35.96	44.95	53.94	63.10	71.92	80.91	89.90
SpoNWComYel3	191.21	382.42	575.20	764.83	956.04	1,147.25	1,342.12	1,529.66	1,720.87	1,912.08
SpoNWComYel4	50.22	100.44	151.07	200.88	251.10	301.32	352.50	401.76	451.98	502.20
SpoNWComYel5	20.49	40.98	61.64	81.96	102.46	122.95	143.83	163.93	184.42	204.91
SpoNWComYel6	34.20	68.10	100.68	132.94	165.16	197.39	227.83	257.97	287.94	318.16
SpoNWComYel7	27.59	55.18	83.00	110.36	137.95	165.54	193.66	220.72	248.31	275.90
SpoNwComYel8	9.30	18.60	27.98	37.20	46.50	55.80	65.28	74.40	83.70	93.00
SpoNWComYel9	74.87	149.73	225.21	299.46	374.32	449.19	525.49	598.92	673.78	748.65
SpoNWPComMTA	249.35	498.70	750.11	997.41	1,246.76	1,496.11	1,750.25	1,994.82	2,244.17	2,493.52
SpoNWPComMTW	578.60	1,152.18	1,703.43	2,249.17	2,794.33	3,339.65	3,854.71	4,364.59	4,871.79	5,383.00
SpoNWPResMTA	6,415.31	12,830.62	19,298.66	25,661.24	32,076.55	38,491.86	45,030.21	51,322.48	57,737.80	64,153.11
SpoNWPResMTW	55,852.47	111,220.74	164,434.32	217,115.28	269,739.75	322,380.36	372,099.63	421,318.56	470,279.25	519,627.30
SpoNWResRed1	18,950.97	37,737.65	55,793.23	73,668.09	91,523.79	109,384.96	126,254.91	142,955.09	159,567.65	176,311.64
SpoNWResRed2	1,401.83	2,803.67	4,217.02	5,607.33	7,009.17	8,411.00	9,839.72	11,214.67	12,616.50	14,018.33
SpoNWResYel1	62.25	123.96	183.28	241.99	300.65	359.32	414.74	469.59	524.16	579.17
SpoNWResYel2	1,028.30	2,047.68	3,027.39	3,997.30	4,966.17	5,935.33	6,850.71	7,756.88	8,658.29	9,566.84
SpoNWResYel3	18.02	36.25	53.59	70.76	87.91	87.55	86.62	85.82	85.15	84.67
SpoNWResYel4	98.29	195.73	289.38	382.09	474.71	567.35	654.85	741.46	827.63	914.47
SpoNWResYel5	19.46	39.15	57.88	76.42	94.94	113.47	130.97	148.29	165.53	182.89
SpoNWResYel6	98.29	195.73	289.38	382.09	474.71	567.35	654.85	741.46	827.63	914.47
SpoNWResYel7	19.46	39.15	57.88	76.42	94.94	113.47	130.97	148.29	165.53	182.89
SpoNWResYel8	36.75	73.17	108.18	142.84	177.47	212.10	244.81	277.19	309.40	341.87
SpoNWResYel9	37.29	74.25	109.78	144.95	180.08	215.22	248.42	281.28	313.96	346.91
Total	335,094.09	667,509.72	988,851.57	1,303,621.65	1,618,182.17	1,932,500.04	2,233,029.26	2,529,316.73	2,824,518.92	3,121,188.13
WA/ID	302,116.96	601,889.92	891,446.95	1,177,908.61	1,464,350.59	1,750,812.98	2,023,675.73	2,292,926.83	2,561,514.54	2,831,984.15
OR	28,199.84	56,117.08	83,510.08	107,882.59	132,082.36	156,054.39	179,833.66	203,107.82	226,083.07	248,601.99

1000

Appendix 4.3 - SENDOUT® Selected Measures (Low Growth High Price Case) in Dth

DSM Program	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029
KlaComRed2	2,507.25	2,727.70	2,955.01	3,182.32	3,418.97	3,636.94	3,636.94	3,636.94	3,646.90	3,636.94
KlaComYel10	28.65	31.17	31.17	31.17	31.26	31.17	31.17	31.17	31.26	31.17
KlaComYel11	976.76	1,062.64	1,151.20	1,239.75	1,331.94	1,328.30	1,328.30	1,328.30	1,331.94	1,328.30
KlaComYel12	31.58	34.36	37.22	40.09	43.07	45.81	48.67	51.54	54.55	57.26
KlaComYel13	48.84	53.13	57.56	61.99	66.60	66.42	66.42	66.42	66.60	66.42
KlaComYel14	58.75	64.04	64.04	64.04	64.04	64.02	63.97	63.97	63.85	63.81
KlaComYel15	336.66	366.26	366.26	366.26	367.26	366.26	366.26	366.26	367.26	366.26
KlaComYel16	336.66	366.26	366.26	366.26	367.26	366.26	366.26	366.26	367.26	366.26
KlaComYel17	165.40	179.94	194.94	209.93	225.54	224.93	224.93	224.93	225.54	224.93
KlaComYel18	165.40	179.94	194.94	209.93	225.54	224.93	224.93	224.93	225.54	224.93
KlaComYel19	238.49	259.46	281.08	302.71	325.22	324.33	324.33	324.33	325.22	324.33
KlaComYel20	1.45	1.69	1.83	1.97	2.11	2.25	2.39	2.53	2.66	2.80
KlaComYel9	28.65	31.17	31.17	31.17	31.26	31.17	31.17	31.17	31.26	31.17
KlamComMTA	10,517.17	11,441.93	12,395.43	12,395.43	12,429.39	12,395.43	12,395.43	12,395.43	12,429.39	12,395.43
KlamComMTW	6,441.55	7,021.67	7,606.81	8,191.95	8,191.95	8,189.40	8,183.01	8,181.73	8,166.41	8,161.31
KlamComYel1	524.23	571.44	619.06	666.68	714.30	761.69	808.66	856.09	901.96	948.84
KlamComYel2	18.88	18.83	18.83	18.83	18.88	18.83	18.83	18.83	18.88	18.83
KlamComYel3	390.70	425.06	460.48	495.90	532.78	531.32	531.32	531.32	532.78	531.32
KlamComYel4	263.72	286.91	286.91	286.91	287.70	286.91	286.91	286.91	287.70	286.91
KlamComYel5	263.72	286.91	286.91	286.91	287.70	286.91	286.91	286.91	287.70	286.91
KlamComYel6	215.21	234.14	253.65	273.16	293.47	292.67	292.67	292.67	293.47	292.67
KlamComYel7	961.74	1,048.36	1,135.72	1,223.09	1,310.45	1,397.38	1,483.55	1,570.58	1,654.73	1,740.73
KlamComYel8	60.70	66.03	71.54	77.04	82.77	88.04	93.55	99.05	104.84	110.06
KlamResMTA	2,333.06	2,538.20	2,538.20	2,538.20	2,545.16	2,538.20	2,538.20	2,538.20	2,545.16	2,538.20
KlamResMTW	18,632.46	20,310.49	22,003.03	23,695.57	25,388.11	27,072.21	28,741.80	30,427.75	32,058.03	33,724.19
KlamResYel1	362.11	361.83	361.83	361.83	361.83	361.72	361.43	361.38	360.70	360.47
KlamResYel2	51.12	51.08	51.08	51.08	51.08	51.07	51.03	51.02	50.92	50.89
KlaResRed1	1,915.68	1,914.18	1,914.18	1,914.18	1,914.18	1,913.59	1,912.10	1,911.80	1,908.22	1,907.02
KlaResRed2	3,211.55	3,493.94	3,785.10	4,076.26	4,087.43	4,076.26	4,076.26	4,076.26	4,087.43	4,076.26
KlaResYel10	46.04	50.19	54.37	58.55	62.73	66.89	71.02	75.18	79.21	83.33
KlaResYel11	5,589.03	6,092.38	6,600.08	7,107.78	7,615.47	8,120.64	8,621.45	9,127.17	9,616.20	10,115.98
KlaResYel12	4,347.03	4,738.52	5,133.39	5,528.27	5,923.15	6,316.05	6,705.57	7,098.91	7,479.26	7,867.99
KlaResYel13	36.53	39.82	43.14	46.46	49.77	53.08	56.35	59.65	62.85	66.12
KlaResYel14	1.60	1.74	1.89	2.03	2.18	2.18	2.18	2.18	2.18	2.18
KlaResYel16	1,228.44	1,336.45	1,447.82	1,559.19	1,675.14	1,781.93	1,893.30	2,004.67	2,121.84	2,227.42
KlaResYel17	6.98	7.60	8.23	8.86	9.52	10.13	10.76	11.39	12.06	12.66
KlaResYel18	1,186.89	1,291.26	1,398.86	1,506.47	1,618.49	1,721.67	1,829.28	1,936.88	2,050.09	2,152.09
KlaResYel19	6.98	7.60	8.23	8.86	9.52	10.13	10.76	11.39	12.06	12.66
KlaResYel20	1,210.63	1,317.08	1,426.84	1,536.59	1,650.86	1,646.35	1,646.35	1,646.35	1,650.86	1,646.35
KlaResYel3	24.91	24.89	24.89	24.89	24.89	24.89	24.87	24.86	24.82	24.80
KlaResYel4	110.64	120.61	130.66	140.71	150.76	160.76	170.68	180.69	190.37	200.26
KlaResYel5	64.40	70.20	76.05	81.90	87.75	93.57	99.34	105.17	110.80	116.56
KlaResYel6	82.23	89.63	97.10	104.57	112.04	119.47	126.84	134.28	141.47	148.83
KlaResYel7	73.06	79.64	86.28	92.91	99.55	106.15	112.70	119.31	125.70	132.24
KlaResYel8	90.27	98.40	106.60	114.80	123.00	131.16	139.25	147.42	155.32	163.39
KlaResYel9	88.05	95.98	103.98	111.98	119.97	127.93	135.82	143.79	151.49	159.37
LaGrComMTA	5,110.96	5,560.36	6,023.72	6,023.72	6,040.23	6,023.72	6,023.72	6,023.72	6,040.23	6,023.72
LaGrComMTW	2,849.15	3,095.23	3,346.16	3,596.70	3,579.55	3,567.89	3,553.48	3,544.56	3,538.39	3,516.44
LaGrComRed2	1,218.43	1,325.56	1,436.03	1,546.49	1,661.49	1,767.42	1,767.42	1,767.42	1,772.26	1,767.42
LaGrComYel1	233.14	253.28	273.81	294.31	313.83	333.67	353.09	372.92	392.95	411.07
LaGrComYel10	15.48	16.84	16.84	16.84	16.89	16.84	16.84	16.84	16.89	16.84
LaGrComYel11	527.67	574.07	621.91	669.75	719.55	717.59	717.59	717.59	719.55	717.59
LaGrComYel12	17.06	18.56	20.11	21.66	23.27	24.75	26.30	27.84	29.47	30.94
LaGrComYel13	26.38	28.70	31.10	33.49	35.98	35.88	35.88	35.88	35.98	35.88
LaGrComYel14	26.13	28.39	28.33	28.27	28.14	28.05	27.93	27.86	27.81	27.64
LaGrComYel15	181.87	197.86	197.86	197.86	198.40	197.86	197.86	197.86	198.40	197.86

Appendix 4.3 - SENDOUT® Selected Measures (Low Growth High Price Case) in Dth

DSM Program	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029
LaGrComYel16	181.87	197.86	197.86	197.86	198.40	197.86	197.86	197.86	198.40	197.86
LaGrComYel17	89.35	97.21	105.31	113.41	121.84	121.51	121.51	121.51	121.84	121.51
LaGrComYel18	89.35	97.21	105.31	113.41	121.84	121.51	121.51	121.51	121.84	121.51
LaGrComYel19	128.84	140.17	151.85	163.53	175.69	175.21	175.21	175.21	175.69	175.21
LaGrComYel2	10.20	10.17	10.17	10.17	10.20	10.17	10.17	10.17	10.20	10.17
LaGrComYel20	0.37	0.41	0.55	0.69	0.73	0.78	0.83	0.87	0.92	1.07
LaGrComYel3	211.07	229.63	248.76	267.90	287.82	287.03	287.03	287.03	287.82	287.03
LaGrComYel4	142.47	155.00	155.00	155.00	155.42	155.00	155.00	155.00	155.42	155.00
LaGrComYel5	142.47	155.00	155.00	155.00	155.42	155.00	155.00	155.00	155.42	155.00
LaGrComYel6	116.26	126.49	137.03	147.57	158.54	158.11	158.11	158.11	158.54	158.11
LaGrComYel7	427.72	464.66	502.33	539.94	575.75	612.14	647.77	684.15	720.90	754.14
LaGrComYel8	32.79	35.67	38.65	41.62	44.71	47.56	50.54	53.51	56.64	59.46
LaGrComYel9	15.48	16.84	16.84	16.84	16.89	16.84	16.84	16.84	16.89	16.84
LaGrResMTA	972.18	1,057.66	1,057.66	1,057.66	1,060.56	1,057.66	1,057.66	1,057.66	1,060.56	1,057.66
LaGrResMTW	7,105.44	7,719.13	8,344.92	8,969.72	9,564.59	10,169.00	10,760.93	11,365.33	11,975.84	12,527.94
LaGrResRed1	730.53	727.49	725.97	724.59	721.14	718.79	715.89	714.09	712.84	708.42
LaGrResRed2	1,338.24	1,455.91	1,577.24	1,698.57	1,703.22	1,698.57	1,698.57	1,698.57	1,703.22	1,698.57
LaGrResYel1	138.09	137.51	137.23	136.97	136.31	135.87	135.32	134.98	134.75	133.91
LaGrResYel10	17.38	18.99	20.53	22.16	23.63	25.13	26.59	28.08	29.59	30.96
LaGrResYel11	2,131.35	2,315.44	2,503.15	2,690.57	2,869.00	3,050.30	3,227.86	3,409.15	3,592.28	3,757.89
LaGrResYel12	1,657.72	1,800.89	1,946.89	2,092.66	2,231.45	2,372.46	2,510.56	2,651.56	2,794.00	2,922.80
LaGrResYel13	13.79	14.98	16.19	17.50	18.67	19.85	21.00	22.18	23.48	24.56
LaGrResYel16	569.05	619.08	670.67	722.26	775.97	825.44	877.03	928.62	982.90	1,031.80
LaGrResYel17	3.23	3.52	3.81	4.10	4.41	4.69	4.98	5.28	5.59	5.86
LaGrResYel18	549.80	598.15	647.99	697.84	749.73	797.53	847.37	897.22	949.66	996.91
LaGrResYel19	3.23	3.52	3.81	4.10	4.41	4.69	4.98	5.28	5.59	5.86
LaGrResYel2	19.41	19.33	19.28	19.25	19.16	19.10	19.02	18.97	18.94	18.82
LaGrResYel20	560.80	610.11	660.95	711.79	764.72	762.64	762.64	762.64	764.72	762.64
LaGrResYel3	9.40	9.36	9.34	9.33	9.28	9.25	9.21	9.19	9.18	9.12
LaGrResYel4	42.19	45.84	49.55	53.26	56.80	60.39	63.90	67.49	71.12	74.39
LaGrResYel5	24.56	26.68	28.84	31.00	33.06	35.15	37.19	39.28	41.39	43.30
LaGrResYel6	1,647.45	1,789.73	1,934.83	2,079.69	2,217.62	2,357.75	2,495.00	2,635.13	2,776.68	2,904.69
LaGrResYel7	27.86	30.27	32.72	35.17	37.50	39.87	42.19	44.56	46.96	49.12
LaGrResYel8	34.43	37.40	40.43	43.46	46.34	49.27	52.14	55.06	58.02	60.70
LaGrResYel9	33.58	36.48	39.43	42.39	45.20	48.05	50.85	53.71	56.59	59.20
MedGComRed2	4,458.32	4,850.33	5,254.53	5,658.72	6,079.53	6,467.11	6,467.11	6,467.11	6,484.83	6,467.11
MedGComYel10	77.58	84.40	84.40	84.40	84.63	84.40	84.40	84.40	84.63	84.40
MedGComYel11	2,644.74	2,877.29	3,117.06	3,356.84	3,606.46	3,596.61	3,596.61	3,596.61	3,606.46	3,596.61
MedGComYel12	85.51	93.03	100.79	108.54	116.61	124.04	131.80	139.55	147.70	155.05
MedGComYel13	132.24	143.86	155.85	167.84	180.32	179.83	179.83	179.83	180.32	179.83
MedGComYel14	102.00	110.95	110.11	109.90	109.52	109.14	108.71	108.52	108.30	107.68
MedGComYel15	911.55	991.71	991.71	991.71	994.42	991.71	991.71	991.71	994.42	991.71
MedGComYel16	911.55	991.71	991.71	991.71	994.42	991.71	991.71	991.71	994.42	991.71
MedGComYel17	447.84	487.22	527.82	568.42	610.69	609.03	609.03	609.03	610.69	609.03
MedGComYel18	447.84	487.22	527.82	568.42	610.69	609.03	609.03	609.03	610.69	609.03
MedGComYel19	645.76	702.54	761.08	819.63	880.58	878.17	878.17	878.17	880.58	878.17
MedGComYel20	2.79	3.03	3.27	3.51	3.75	3.98	4.21	4.45	4.69	4.91
MedGComYel9	77.58	84.40	84.40	84.40	84.63	84.40	84.40	84.40	84.63	84.40
MedGResRed1	3,083.74	3,074.75	3,051.53	3,045.54	3,035.05	3,024.57	3,012.58	3,007.34	3,001.35	2,984.12
MedGResRed2	5,295.05	5,760.64	6,240.69	6,720.74	6,739.16	6,720.74	6,720.74	6,720.74	6,739.16	6,720.74
MedGResYel10	74.11	80.61	86.67	93.15	99.47	105.73	111.89	118.27	124.59	130.39
MedGResYel11	8,996.89	9,786.18	10,521.63	11,308.74	12,074.78	12,835.27	13,583.44	14,357.43	15,124.87	15,829.53
MedGResYel12	6,997.58	7,611.47	8,183.49	8,795.68	9,391.50	9,982.99	10,564.90	11,166.89	11,763.79	12,311.86
MedGResYel13	58.60	63.96	68.77	73.91	78.92	83.89	88.78	93.84	98.86	103.46
MedGResYel14	4.02	4.37	4.73	5.10	5.48	5.46	5.46	5.46	5.48	5.46
MedGResYel15	1.46	1.59	1.72	1.85	1.99	1.99	1.99	1.99	1.99	1.99

Appendix 4.3 - SENDOUT® Selected Measures (Low Growth High Price Case) in Dth

DSM Program	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029
MedGResYel16	3,084.11	3,355.29	3,634.90	3,914.50	4,205.60	4,473.72	4,753.33	5,032.93	5,327.10	5,592.15
MedGResYel17	17.53	19.07	20.66	22.25	23.90	25.43	27.02	28.60	30.28	31.78
MedGResYel18	2,979.82	3,241.83	3,511.98	3,782.13	4,063.38	4,322.43	4,592.59	4,862.74	5,146.95	5,403.04
MedGResYel19	17.53	19.07	20.66	22.25	23.90	25.43	27.02	28.60	30.28	31.78
MedGResYel20	3,039.41	3,306.66	3,582.22	3,857.77	4,144.65	4,133.33	4,133.33	4,133.33	4,144.65	4,133.33
MedGTComYel1	910.12	989.96	1,064.36	1,143.98	1,221.47	1,298.40	1,374.09	1,452.38	1,530.02	1,601.30
MedGTComYel2	51.13	50.99	50.99	50.99	51.13	50.99	50.99	50.99	51.13	50.99
MedGTComYel3	1,057.90	1,150.92	1,246.83	1,342.73	1,442.59	1,438.64	1,438.64	1,438.64	1,442.59	1,438.64
MedGTComYel4	714.08	776.87	776.87	776.87	779.00	776.87	776.87	776.87	779.00	776.87
MedGTComYel5	714.08	776.87	776.87	776.87	779.00	776.87	776.87	776.87	779.00	776.87
MedGTComYel6	582.72	633.96	686.79	739.62	794.62	792.45	792.45	792.45	794.62	792.45
MedGTComYel7	1,669.68	1,816.16	1,952.65	2,098.73	2,240.90	2,382.03	2,520.88	2,664.52	2,806.94	2,937.72
MedGTComYel8	164.35	178.80	193.70	208.60	224.11	238.40	253.30	268.20	283.87	298.00
MedGTNComMTA	18,701.37	20,345.76	22,041.24	22,041.24	22,101.62	22,041.24	22,041.24	22,041.24	22,101.62	22,041.24
MedGTNComMTW	11,185.89	12,167.22	13,081.61	14,060.23	14,011.82	13,963.40	13,908.08	13,883.87	13,856.21	13,776.67
MedGTNResMTA	3,846.64	4,184.87	4,184.87	4,184.87	4,196.33	4,184.87	4,184.87	4,184.87	4,196.33	4,184.87
MedGTNResMTW	29,979.99	32,610.12	35,060.84	37,683.69	40,236.36	42,770.50	45,263.59	47,842.74	50,400.05	52,748.16
MedGTResYel1	582.90	581.20	576.82	575.68	573.70	571.72	569.45	568.46	567.33	564.07
MedGTResYel2	82.29	82.05	81.43	81.27	80.99	80.71	80.39	80.25	80.09	79.63
MedGTResYel3	39.97	39.85	39.56	39.48	39.34	39.21	39.05	38.98	38.91	38.68
MedGTResYel4	178.11	193.73	208.29	223.88	239.04	254.10	268.91	284.23	299.42	313.37
MedGTResYel5	103.67	112.76	121.24	130.31	139.13	147.90	156.52	165.43	174.28	182.40
MedGTResYel6	6,954.21	7,564.30	8,132.78	8,741.18	9,333.30	9,921.12	10,499.42	11,097.69	11,690.89	12,235.56
MedGTResYel7	117.61	127.92	137.54	147.83	157.84	167.78	177.56	187.68	197.71	206.92
MedGTResYel8	145.32	158.06	169.94	182.66	195.03	207.31	219.40	231.90	244.29	255.68
MedGTResYel9	141.74	154.17	165.76	178.16	190.23	202.21	213.99	226.19	238.28	249.38
MedNComRed2	2,003.01	2,179.14	2,360.73	2,542.32	2,731.38	2,905.51	2,905.51	2,905.51	2,913.47	2,905.51
MedNComYel10	34.85	37.92	37.92	37.92	38.02	37.92	37.92	37.92	38.02	37.92
MedNComYel11	1,188.22	1,292.69	1,400.42	1,508.14	1,620.30	1,615.87	1,615.87	1,615.87	1,620.30	1,615.87
MedNComYel12	38.42	41.80	45.28	48.76	52.39	55.73	59.21	62.70	66.36	69.66
MedNComYel13	59.41	64.63	70.02	75.41	81.01	80.79	80.79	80.79	81.01	80.79
MedNComYel14	45.67	49.68	49.31	49.22	49.05	48.88	48.68	48.60	48.50	48.22
MedNComYel15	409.54	445.55	445.55	445.55	446.77	445.55	445.55	445.55	446.77	445.55
MedNComYel16	409.54	445.55	445.55	445.55	446.77	445.55	445.55	445.55	446.77	445.55
MedNComYel17	201.20	218.90	237.14	255.38	274.37	273.62	273.62	273.62	274.37	273.62
MedNComYel18	201.20	218.90	237.14	255.38	274.37	273.62	273.62	273.62	274.37	273.62
MedNComYel19	290.12	315.63	341.94	368.24	395.62	394.54	394.54	394.54	395.62	394.54
MedNComYel20	1.11	1.20	1.30	1.50	1.60	1.70	1.80	1.90	2.11	2.21
MedNComYel9	34.85	37.92	37.92	37.92	38.02	37.92	37.92	37.92	38.02	37.92
MedNResRed1	1,385.45	1,381.41	1,370.98	1,368.29	1,363.57	1,358.86	1,353.48	1,351.12	1,348.43	1,340.69
MedNResRed2	2,378.94	2,588.11	2,803.79	3,019.46	3,027.74	3,019.46	3,019.46	3,019.46	3,027.74	3,019.46
MedNResYel10	33.18	36.09	38.81	41.72	44.54	47.35	50.11	52.96	55.79	58.49
MedNResYel11	4,042.08	4,396.69	4,727.11	5,080.74	5,424.90	5,766.57	6,102.70	6,450.44	6,795.23	7,111.82
MedNResYel12	3,143.84	3,419.65	3,676.64	3,951.68	4,219.37	4,485.11	4,746.55	5,017.01	5,285.18	5,531.41
MedNResYel13	26.33	28.64	30.80	33.10	35.34	37.57	39.76	42.02	44.27	46.33
MedNResYel14	1.80	1.96	2.13	2.29	2.46	2.45	2.45	2.45	2.46	2.45
MedNResYel16	1,385.61	1,507.45	1,633.07	1,758.69	1,889.47	2,009.93	2,135.55	2,261.17	2,393.33	2,512.42
MedNResYel17	7.88	8.57	9.28	10.00	10.74	11.42	12.14	12.85	13.60	14.28
MedNResYel18	1,338.76	1,456.47	1,577.85	1,699.22	1,825.58	1,941.96	2,063.34	2,184.71	2,312.40	2,427.45
MedNResYel19	7.88	8.57	9.28	10.00	10.74	11.42	12.14	12.85	13.60	14.28
MedNResYel20	1,365.53	1,485.60	1,609.40	1,733.20	1,862.09	1,857.00	1,857.00	1,857.00	1,862.09	1,857.00
MedNWComYel1	408.89	444.76	478.19	513.96	548.78	583.34	617.34	652.52	687.40	719.42
MedNWComYel2	22.97	22.91	22.91	22.91	22.97	22.91	22.91	22.91	22.97	22.91
MedNWComYel3	475.29	517.08	560.17	603.26	648.12	646.35	646.35	646.35	648.12	646.35
MedNWComYel4	320.82	349.03	349.03	349.03	349.98	349.03	349.03	349.03	349.98	349.03
MedNWComYel5	320.82	349.03	349.03	349.03	349.98	349.03	349.03	349.03	349.98	349.03

Appendix 4.3 - SENDOUT® Selected Measures (Low Growth High Price Case) in Dth

DSM Program	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029
MedNWComYel6	261.80	284.82	308.56	332.29	357.01	356.03	356.03	356.03	357.01	356.03
MedNWComYel7	750.15	815.96	877.28	942.91	1,006.78	1,070.19	1,132.57	1,197.10	1,261.09	1,319.84
MedNWComYel8	73.84	80.33	87.02	93.72	100.69	107.11	113.80	120.49	127.54	133.88
MedNWPComMTA	8,402.07	9,140.85	9,902.58	9,902.58	9,929.71	9,902.58	9,902.58	9,902.58	9,929.71	9,902.58
MedNWPComMTW	5,026.86	5,467.86	5,878.78	6,318.56	6,296.81	6,275.05	6,250.19	6,239.31	6,226.88	6,191.14
MedNWPResMTA	1,728.20	1,880.16	1,880.16	1,880.16	1,885.31	1,880.16	1,880.16	1,880.16	1,885.31	1,880.16
MedNWPResMTW	13,472.88	14,654.85	15,756.20	16,934.89	18,082.05	19,220.88	20,341.27	21,500.33	22,649.57	23,704.80
MedNWResYel1	261.88	261.12	259.15	258.64	257.75	256.86	255.84	255.40	254.89	253.42
MedNWResYel2	36.85	36.74	36.47	36.40	36.27	36.15	36.00	35.94	35.87	35.66
MedNWResYel3	17.96	17.90	17.77	17.74	17.68	17.61	17.54	17.51	17.48	17.38
MedNWResYel4	80.02	87.04	93.58	100.58	107.40	114.16	120.81	127.70	134.52	140.79
MedNWResYel5	46.42	50.49	54.29	58.46	62.42	66.35	70.32	74.33	78.30	81.95
MedNWResYel6	3,124.36	3,398.45	3,653.86	3,927.19	4,193.22	4,457.32	4,717.13	4,985.92	5,252.43	5,497.13
MedNWResYel7	52.66	57.28	61.70	66.32	70.91	75.38	79.77	84.32	88.83	92.96
MedNWResYel8	65.29	71.01	76.35	82.06	87.62	93.14	98.57	104.19	109.76	114.87
MedNWResYel9	63.68	69.27	74.47	80.04	85.46	90.85	96.14	101.62	107.05	112.04
RosComMTA	8,026.91	8,732.70	9,460.43	9,460.43	9,486.35	9,460.43	9,460.43	9,460.43	9,486.35	9,460.43
RosComMTW	4,809.83	5,216.95	5,615.94	6,026.17	5,991.00	5,955.84	5,937.42	5,860.40	5,825.24	5,786.73
RosComRed2	1,913.58	2,081.84	2,255.32	2,428.81	2,609.42	2,775.78	2,775.78	2,775.78	2,783.39	2,775.78
RosComYel1	391.37	424.49	456.96	490.34	522.30	553.85	586.64	613.09	643.27	672.65
RosComYel10	37.57	40.87	40.87	40.87	40.98	40.87	40.87	40.87	40.98	40.87
RosComYel11	1,280.70	1,393.31	1,509.41	1,625.52	1,746.40	1,741.63	1,741.63	1,741.63	1,746.40	1,741.63
RosComYel12	41.41	45.05	48.80	52.56	56.47	60.07	63.82	67.58	71.52	75.08
RosComYel13	64.03	69.67	75.47	81.28	87.32	87.08	87.08	87.08	87.32	87.08
RosComYel14	43.79	47.50	47.20	47.03	46.75	46.48	46.33	45.74	45.47	45.17
RosComYel15	441.41	480.23	480.23	480.23	481.54	480.23	480.23	480.23	481.54	480.23
RosComYel16	441.41	480.23	480.23	480.23	481.54	480.23	480.23	480.23	481.54	480.23
RosComYel17	216.86	235.93	255.59	275.26	295.72	294.92	294.92	294.92	295.72	294.92
RosComYel18	216.86	235.93	255.59	275.26	295.72	294.92	294.92	294.92	295.72	294.92
RosComYel19	312.70	340.20	368.55	396.90	426.41	425.25	425.25	425.25	426.41	425.25
RosComYel2	24.76	24.69	24.69	24.69	24.76	24.69	24.69	24.69	24.76	24.69
RosComYel20	1.04	1.13	1.22	1.41	1.50	1.59	1.68	1.77	1.96	2.05
RosComYel3	512.28	557.32	603.77	650.21	698.56	696.65	696.65	696.65	698.56	696.65
RosComYel4	345.79	376.19	376.19	376.19	377.22	376.19	376.19	376.19	377.22	376.19
RosComYel5	345.79	376.19	376.19	376.19	377.22	376.19	376.19	376.19	377.22	376.19
RosComYel6	282.18	306.99	332.57	358.16	384.79	383.74	383.74	383.74	384.79	383.74
RosComYel7	718.00	778.77	838.33	899.57	958.20	1,016.08	1,076.25	1,124.77	1,180.14	1,234.04
RosComYel8	79.58	86.58	93.80	101.01	108.52	115.44	122.66	129.87	137.46	144.30
RosComYel9	37.57	40.87	40.87	40.87	40.98	40.87	40.87	40.87	40.98	40.87
RosResMTA	1,278.17	1,390.55	1,390.55	1,390.55	1,394.36	1,390.55	1,390.55	1,390.55	1,394.36	1,390.55
RosResMTW	9,985.63	10,830.85	11,659.17	12,510.84	13,326.26	14,131.25	14,968.02	15,642.90	16,412.88	17,162.50
RosResRed1	1,026.59	1,020.69	1,014.23	1,010.58	1,004.69	998.79	995.70	982.79	976.89	970.43
RosResRed2	1,759.45	1,914.15	2,073.66	2,233.18	2,239.30	2,233.18	2,233.18	2,233.18	2,239.30	2,233.18
RosResYel1	194.05	192.94	191.72	191.03	189.91	188.80	188.21	185.77	184.66	183.44
RosResYel10	24.56	26.64	28.67	30.77	32.87	34.86	36.92	38.59	40.49	42.34
RosResYel11	2,995.10	3,248.62	3,497.07	3,752.52	3,997.09	4,238.54	4,489.52	4,691.95	4,922.90	5,147.74
RosResYel12	2,329.52	2,526.70	2,719.94	2,918.62	3,108.85	3,296.64	3,491.85	3,649.29	3,828.92	4,003.80
RosResYel13	19.48	21.13	22.75	24.41	26.00	27.57	29.20	30.53	32.04	33.50
RosResYel14	1.51	1.64	1.77	1.91	2.05	2.05	2.05	2.05	2.05	2.05
RosResYel16	1,156.18	1,257.84	1,362.66	1,467.48	1,576.60	1,677.11	1,781.93	1,886.75	1,997.03	2,096.39
RosResYel17	6.57	7.15	7.74	8.34	8.96	9.53	10.13	10.72	11.35	11.91
RosResYel18	1,117.08	1,215.30	1,316.58	1,417.85	1,523.29	1,620.40	1,721.68	1,822.95	1,929.50	2,025.50
RosResYel19	6.57	7.15	7.74	8.34	8.96	9.53	10.13	10.72	11.35	11.91
RosResYel2	27.27	27.11	26.94	26.84	26.68	26.53	26.44	26.11	25.96	25.78
RosResYel20	1,139.42	1,239.61	1,342.91	1,446.21	1,553.75	1,549.51	1,549.51	1,549.51	1,553.75	1,549.51
RosResYel3	13.29	13.21	13.13	13.08	13.00	12.93	12.89	12.73	12.65	12.57

Appendix 4.3 - SENDOUT® Selected Measures (Low Growth High Price Case) in Dth

DSM Program	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029
RosResYel4	59.20	64.31	69.23	74.29	79.13	83.91	88.88	92.89	97.46	101.91
RosResYel5	34.45	37.37	40.23	43.17	45.98	48.76	51.64	53.99	56.64	59.23
RosResYel6	420.92	418.51	415.86	414.36	411.94	409.53	408.26	402.96	400.55	397.90
RosResYel7	39.09	42.40	45.64	48.97	52.16	55.31	58.59	61.25	64.26	67.19
RosResYel8	48.30	52.38	56.39	60.61	64.56	68.46	72.51	75.78	79.51	83.15
RosResYel9	47.11	51.09	55.00	59.02	62.97	66.77	70.73	73.92	77.56	81.10
SpoBComYel10	2,044.76	2,224.55	2,409.93	2,595.31	2,788.30	2,966.06	3,151.44	3,336.82	3,531.85	3,707.58
SpoBComYel11	2,250.64	2,448.54	2,652.59	2,856.63	3,069.06	3,060.68	3,060.68	3,060.68	3,069.06	3,060.68
SpoBComYel12	985.71	1,072.38	1,161.74	1,251.11	1,344.15	1,340.47	1,340.47	1,340.47	1,344.15	1,340.47
SpoBoComMTA	5,412.06	5,887.93	6,378.60	6,869.26	7,380.08	7,850.58	7,850.58	7,850.58	7,872.09	7,850.58
SpoBoComMTW	11,648.67	12,656.16	13,663.65	14,673.12	15,684.08	16,676.88	17,696.74	18,651.60	19,634.50	20,611.80
SpoBoComRed1	17,132.13	18,613.88	20,095.64	21,580.30	23,067.15	24,527.31	26,027.26	27,431.60	28,877.19	30,314.54
SpoBoComRed2	1,438.92	1,565.44	1,695.90	1,826.35	1,962.16	2,087.26	2,217.71	2,217.71	2,223.79	2,217.71
SpoBoComYel1	133.22	144.94	157.01	169.09	181.67	181.17	181.17	181.17	181.67	181.17
SpoBoComYel2	195.12	194.59	194.59	194.59	195.12	194.59	194.59	194.59	195.12	194.59
SpoBoComYel3	4,150.07	4,514.98	4,891.22	5,267.47	5,659.18	5,643.72	5,643.72	5,643.72	5,659.18	5,643.72
SpoBoComYel4	1,090.00	1,185.84	1,284.66	1,383.48	1,486.36	1,581.12	1,679.94	1,778.76	1,882.72	1,976.40
SpoBoComYel5	444.75	483.85	524.17	564.49	606.47	604.81	604.81	604.81	606.47	604.81
SpoBoComYel6	686.41	745.78	805.15	864.63	924.20	982.70	1,042.80	1,099.07	1,156.99	1,214.57
SpoBoComYel7	598.83	651.48	705.77	760.06	816.58	814.35	814.35	814.35	816.58	814.35
SpoBoComYel8	238.09	259.02	280.61	302.19	324.66	323.77	323.77	323.77	324.66	323.77
SpoBoComYel9	1,624.90	1,767.78	1,915.10	2,062.41	2,215.78	2,209.72	2,209.72	2,209.72	2,215.78	2,209.72
SpoBoResMTA	139,240.87	138,860.43	138,860.43	138,860.43	139,240.87	138,860.43	138,860.43	138,860.43	139,240.87	138,860.43
SpoBoResMTW	1,122,437.61	1,219,516.88	1,316,596.20	1,413,866.27	1,511,279.43	1,606,943.71	1,705,215.43	1,797,222.93	1,891,933.31	1,986,103.05
SpoBoResRed1	380,384.76	413,284.12	446,183.50	479,147.51	512,160.03	544,579.85	577,883.32	609,063.90	607,415.16	605,766.42
SpoBoResRed2	30,426.04	33,101.35	35,859.80	38,618.25	41,490.05	41,376.69	41,376.69	41,376.69	41,490.05	41,376.69
SpoBoResYel1	1,135.94	1,131.33	1,127.44	1,124.25	1,121.60	1,118.06	1,116.64	1,111.51	1,108.50	1,105.49
SpoBoResYel2	20,640.04	22,425.19	24,210.34	25,999.00	27,790.29	29,549.42	31,356.50	33,048.39	34,789.98	36,521.63
SpoBoResYel3	166.07	165.40	164.83	164.36	163.98	163.46	163.25	162.50	162.06	161.62
SpoBoResYel4	1,972.94	2,143.58	2,314.22	2,485.19	2,656.42	2,824.57	2,997.30	3,159.03	3,325.50	3,491.03
SpoBoResYel5	394.59	428.72	462.84	497.04	531.28	564.91	599.46	631.81	665.10	698.21
SpoBoResYel6	1,972.94	2,143.58	2,314.22	2,485.19	2,656.42	2,824.57	2,997.30	3,159.03	3,325.50	3,491.03
SpoBoResYel7	394.59	428.72	462.84	497.04	531.28	564.91	599.46	631.81	665.10	698.21
SpoBoResYel8	737.57	801.36	865.15	929.07	993.08	1,055.94	1,120.52	1,180.98	1,243.22	1,305.10
SpoBoResYel9	748.44	813.17	877.90	942.76	1,007.72	1,071.51	1,137.03	1,198.38	1,261.54	1,324.33
SpoBResYel10	232.50	252.61	272.72	292.87	313.05	332.86	353.22	372.28	391.89	411.40
SpoBResYel11	16,304.16	17,714.30	19,124.44	20,537.35	21,952.34	23,341.93	24,769.39	26,105.87	27,481.60	28,849.47
SpoBResYel12	23,250.13	25,261.03	27,271.93	29,286.78	31,304.59	33,286.18	35,321.77	37,227.62	39,189.44	41,140.07
SpoBResYel13	153.45	166.72	179.99	193.29	206.61	219.69	233.12	245.70	258.65	271.52
SpoBResYel14	10,481.24	11,387.76	12,294.28	13,202.58	14,112.22	15,005.53	15,923.18	16,782.34	17,666.74	18,546.09
SpoBResYel15	75,563.53	82,099.00	88,634.47	95,182.78	101,740.73	108,180.94	114,796.68	120,990.71	127,366.70	133,706.29
SpoBResYel16	192.06	208.68	225.29	241.93	258.60	274.97	291.79	307.53	323.74	339.85
SpoBResYel17	15.27	16.61	17.99	19.38	20.82	20.76	20.76	20.76	20.82	20.76
SpoBResYel18	5.55	6.04	6.54	7.05	7.57	7.55	7.55	7.55	7.57	7.55
SpoBResYel19	91.34	99.24	98.90	98.62	98.39	98.08	97.95	97.50	97.24	96.97
SpoBResYel20	4,642.79	5,051.02	5,471.94	5,892.86	6,331.07	6,734.69	7,155.61	7,576.53	8,019.36	8,418.37
SpoBResYel21	60.69	66.03	71.53	77.03	82.76	88.04	93.54	99.04	104.83	110.04
SpoBResYel22	488.49	531.44	575.73	620.02	666.13	708.59	752.88	797.17	843.76	885.74
SpoBResYel23	60.69	66.03	71.53	77.03	82.76	88.04	93.54	99.04	104.83	110.04
SpoBResYel24	11,550.35	12,565.95	13,613.11	14,660.28	15,750.47	15,707.44	15,707.44	15,707.44	15,750.47	15,707.44
SpoBResYel25	1,824.51	1,982.31	2,140.12	2,298.23	2,456.57	2,448.82	2,445.72	2,434.48	2,427.89	2,421.30
SpoGComYel10	268.16	291.74	316.06	340.37	365.68	388.99	413.30	437.62	463.19	486.24
SpoGComYel11	295.17	321.12	347.88	374.64	402.50	428.16	454.92	481.68	509.83	535.20
SpoGComYel12	129.27	140.64	152.36	164.08	176.28	175.80	175.80	175.80	176.28	175.80
SpoGResYel10	30.49	33.13	35.77	38.41	41.06	43.65	46.32	48.82	51.40	53.95
SpoGResYel11	2,138.25	2,323.19	2,508.12	2,693.42	2,879.00	3,061.24	3,248.45	3,423.72	3,604.14	3,783.54

Appendix 4.3 - SENDOUT® Selected Measures (Low Growth High Price Case) in Dth

DSM Program	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029
SpoGResYel12	3,049.20	3,312.92	3,576.65	3,840.89	4,105.52	4,365.40	4,632.36	4,882.31	5,139.60	5,395.42
SpoGResYel13	20.12	21.87	23.61	25.35	27.10	28.81	30.57	32.22	33.92	35.61
SpoGResYel14	1,374.59	1,493.48	1,612.36	1,731.49	1,850.78	1,967.94	2,088.29	2,200.96	2,316.95	2,432.27
SpoGResYel15	9,909.97	10,767.08	11,624.19	12,482.99	13,343.05	14,187.66	15,055.30	15,867.63	16,703.83	17,535.25
SpoGResYel16	25.19	27.37	29.55	31.73	33.91	36.06	38.27	40.33	42.46	44.57
SpoGResYel17	2.00	2.18	2.36	2.54	2.73	2.72	2.72	2.72	2.73	2.72
SpoGResYel19	11.86	12.88	12.84	12.80	12.77	12.73	12.72	12.66	12.63	12.59
SpoGResYel20	608.89	662.43	717.63	772.83	830.30	883.24	938.44	993.64	1,051.72	1,104.05
SpoGResYel21	7.96	8.66	9.38	10.10	10.85	11.55	12.27	12.99	13.75	14.43
SpoGResYel22	67.65	73.60	79.74	85.87	92.26	98.14	104.27	110.40	116.86	122.67
SpoGResYel23	7.96	8.66	9.38	10.10	10.85	11.55	12.27	12.99	13.75	14.43
SpoGResYel24	1,514.80	1,647.99	1,785.33	1,922.66	2,065.64	2,059.99	2,059.99	2,059.99	2,065.64	2,059.99
SpoGResYel25	239.28	259.98	280.67	301.41	322.17	321.16	320.75	319.28	318.41	317.55
SpoGTComRed1	2,246.84	2,441.17	2,635.49	2,830.20	3,025.20	3,216.70	3,413.41	3,597.59	3,787.17	3,975.68
SpoGTComRed2	188.71	205.30	222.41	239.52	257.33	273.74	290.85	290.85	291.64	290.85
SpoGTComYel1	17.47	19.01	20.59	22.18	23.83	23.76	23.76	23.76	23.83	23.76
SpoGTComYel2	25.59	25.52	25.52	25.52	25.59	25.52	25.52	25.52	25.59	25.52
SpoGTComYel3	544.27	592.13	641.47	690.82	742.19	740.16	740.16	740.16	742.19	740.16
SpoGTComYel4	142.95	155.52	168.48	181.44	194.93	207.36	220.32	233.28	246.91	259.20
SpoGTComYel5	58.33	63.46	68.74	74.03	79.54	79.32	79.32	79.32	79.54	79.32
SpoGTComYel6	90.02	97.81	105.59	113.39	121.21	128.88	136.76	144.14	151.74	159.29
SpoGTComYel7	78.53	85.44	92.56	99.68	107.09	106.80	106.80	106.80	107.09	106.80
SpoGTComYel8	26.47	28.80	31.20	33.60	36.10	36.00	36.00	36.00	36.10	36.00
SpoGTComYel9	213.10	231.84	251.16	270.48	290.59	289.80	289.80	289.80	290.59	289.80
SpoGTNComMTA	709.78	772.19	836.54	900.89	967.88	1,029.58	1,029.58	1,029.58	1,032.40	1,029.58
SpoGTNComMTW	1,482.56	1,610.78	1,739.01	1,867.49	1,996.15	2,122.51	2,252.31	2,373.84	2,498.94	2,623.32
SpoGTNResMTA	18,261.10	18,211.20	18,211.20	18,211.20	18,261.10	18,211.20	18,211.20	18,211.20	18,261.10	18,211.20
SpoGTNResMTW	147,196.83	159,927.84	172,658.85	185,414.88	198,189.68	210,735.12	223,622.50	235,688.40	248,108.75	260,458.21
SpoGTResRed1	49,886.53	54,201.20	58,515.87	62,839.02	67,168.53	71,420.31	75,787.98	79,877.23	79,661.00	79,444.78
SpoGTResRed2	3,990.30	4,341.16	4,702.92	5,064.69	5,441.32	5,426.45	5,426.45	5,426.45	5,441.32	5,426.45
SpoGTResYel1	148.98	148.37	147.86	147.44	147.09	146.63	146.45	145.77	145.38	144.98
SpoGTResYel2	2,706.89	2,941.01	3,175.13	3,409.71	3,644.63	3,875.33	4,112.33	4,334.21	4,562.62	4,789.72
SpoGTResYel3	21.78	21.69	21.62	21.56	21.51	21.44	21.41	21.31	21.25	21.20
SpoGTResYel4	258.75	281.13	303.50	325.93	348.38	370.44	393.09	414.30	436.13	457.84
SpoGTResYel5	51.75	56.23	60.70	65.19	69.68	74.09	78.62	82.86	87.23	91.57
SpoGTResYel6	258.75	281.13	303.50	325.93	348.38	370.44	393.09	414.30	436.13	457.84
SpoGTResYel7	51.75	56.23	60.70	65.19	69.68	74.09	78.62	82.86	87.23	91.57
SpoGTResYel8	96.73	105.10	113.46	121.85	130.24	138.48	146.95	154.88	163.04	171.16
SpoGTResYel9	98.16	106.65	115.13	123.64	132.16	140.53	149.12	157.17	165.45	173.68
SpoNComYel10	1,039.14	1,130.51	1,224.72	1,318.93	1,417.01	1,507.34	1,601.55	1,695.76	1,794.88	1,884.18
SpoNComYel11	1,143.77	1,244.34	1,348.04	1,451.73	1,559.69	1,555.43	1,555.43	1,555.43	1,559.69	1,555.43
SpoNComYel12	500.93	544.98	590.40	635.81	683.09	681.22	681.22	681.22	683.09	681.22
SpoNResYel10	118.16	128.38	138.60	148.83	159.09	169.16	179.50	189.19	199.16	209.07
SpoNResYel11	8,285.72	9,002.35	9,718.98	10,437.02	11,156.11	11,862.29	12,587.73	13,266.92	13,966.06	14,661.21
SpoNResYel12	11,815.64	12,837.57	13,859.50	14,883.44	15,908.89	16,915.93	17,950.41	18,918.95	19,915.95	20,907.25
SpoNResYel13	77.98	84.73	91.47	98.23	105.00	111.65	118.47	124.87	131.45	137.99
SpoNResYel14	5,326.53	5,787.22	6,247.91	6,709.51	7,171.78	7,625.76	8,092.11	8,528.73	8,978.18	9,425.06
SpoNResYel15	38,401.14	41,722.44	45,043.75	48,371.58	51,704.30	54,977.20	58,339.30	61,487.08	64,727.34	67,949.10
SpoNResYel16	97.61	106.05	114.49	122.95	131.42	139.74	148.28	156.29	164.52	172.71
SpoNResYel17	7.76	8.44	9.14	9.85	10.58	10.55	10.55	10.55	10.58	10.55
SpoNResYel18	2.82	3.07	3.32	3.58	3.85	3.84	3.84	3.84	3.85	3.84
SpoNResYel19	46.42	50.43	50.26	50.12	50.00	49.84	49.78	49.55	49.42	49.28
SpoNResYel20	2,359.45	2,566.91	2,780.82	2,994.73	3,217.43	3,422.55	3,636.46	3,850.37	4,075.41	4,278.19
SpoNResYel21	30.84	33.55	36.35	39.15	42.06	44.74	47.54	50.33	53.27	55.92
SpoNResYel22	262.16	285.21	308.98	332.75	357.49	380.28	404.05	427.82	452.82	475.35
SpoNResYel23	30.84	33.55	36.35	39.15	42.06	44.74	47.54	50.33	53.27	55.92

Appendix 4.3 - SENDOUT® Selected Measures (Low Growth High Price Case) in Dth

DSM Program	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029
SpoNResYel24	5,869.85	6,385.98	6,918.14	7,450.30	8,004.34	7,982.47	7,982.47	7,982.47	8,004.34	7,982.47
SpoNResYel25	927.21	1,007.41	1,087.60	1,167.95	1,248.42	1,244.48	1,242.91	1,237.19	1,233.84	1,230.49
SpoNWComRed1	8,706.49	9,459.51	10,212.54	10,967.04	11,722.65	12,464.70	13,226.97	13,940.65	14,675.30	15,405.75
SpoNWComRed2	731.25	795.55	861.85	928.14	997.17	1,060.74	1,127.03	1,127.03	1,130.12	1,127.03
SpoNWComYel1	67.70	73.66	79.79	85.93	92.32	92.07	92.07	92.07	92.32	92.07
SpoNWComYel2	99.16	98.89	98.89	98.89	99.16	98.89	98.89	98.89	99.16	98.89
SpoNWComYel3	2,109.05	2,294.50	2,485.70	2,676.91	2,875.98	2,868.12	2,868.12	2,868.12	2,875.98	2,868.12
SpoNWComYel4	553.93	602.64	652.86	703.08	755.36	803.52	853.74	903.96	956.79	1,004.40
SpoNWComYel5	226.02	245.89	266.38	286.87	308.21	307.36	307.36	307.36	308.21	307.36
SpoNWComYel6	348.83	379.00	409.17	439.40	469.68	499.41	529.95	558.54	587.98	617.24
SpoNWComYel7	304.32	331.08	358.67	386.26	414.98	413.85	413.85	413.85	414.98	413.85
SpoNwComYel8	102.58	111.60	120.90	130.20	139.88	139.50	139.50	139.50	139.88	139.50
SpoNWComYel9	825.77	898.38	973.24	1,048.11	1,126.05	1,122.98	1,122.98	1,122.98	1,126.05	1,122.98
SpoNWPComMTA	2,750.39	2,992.23	3,241.58	3,490.93	3,750.53	3,989.64	3,989.64	3,989.64	4,000.57	3,989.64
SpoNWPComMTW	5,901.99	6,412.45	6,922.92	7,434.38	7,946.60	8,449.62	8,966.35	9,450.14	9,948.15	10,443.31
SpoNWPResMTA	70,761.76	70,568.42	70,568.42	70,568.42	70,761.76	70,568.42	70,568.42	70,568.42	70,761.76	70,568.42
SpoNWPResMTW	569,725.86	619,001.29	668,276.70	717,648.96	767,093.85	815,651.02	865,531.71	912,232.80	960,305.81	1,008,104.40
SpoNWResRed1	193,310.29	210,029.64	226,748.99	243,501.19	260,278.05	276,753.70	293,678.41	309,524.28	308,686.40	307,848.51
SpoNWResRed2	15,462.41	16,822.00	18,223.83	19,625.67	21,085.11	21,027.50	21,027.50	21,027.50	21,085.11	21,027.50
SpoNWResYel1	577.28	574.94	572.96	571.34	569.99	568.19	567.47	564.87	563.34	561.81
SpoNWResYel2	10,489.20	11,396.41	12,303.62	13,212.61	14,122.94	15,016.92	15,935.27	16,795.08	17,680.15	18,560.17
SpoNWResYel3	84.40	84.06	83.77	83.53	83.33	83.07	82.96	82.58	82.36	82.14
SpoNWResYel4	1,002.64	1,089.36	1,176.08	1,262.97	1,349.98	1,435.44	1,523.22	1,605.41	1,690.01	1,774.13
SpoNWResYel5	200.53	217.87	235.22	252.59	270.00	287.09	304.64	321.08	338.00	354.83
SpoNWResYel6	1,002.64	1,089.36	1,176.08	1,262.97	1,349.98	1,435.44	1,523.22	1,605.41	1,690.01	1,774.13
SpoNWResYel7	200.53	217.87	235.22	252.59	270.00	287.09	304.64	321.08	338.00	354.83
SpoNWResYel8	374.83	407.25	439.67	472.15	504.68	536.63	569.44	600.17	631.80	663.25
SpoNWResYel9	380.35	413.25	446.15	479.11	512.12	544.54	577.84	609.01	641.11	673.02
Total	3,423,429.42	3,698,552.53	3,972,647.33	4,243,258.47	4,511,336.85	4,762,015.78	5,018,607.28	5,259,559.16	5,453,433.04	5,642,461.62
WA/ID	3,106,841.34	3,355,122.77	3,604,319.65	3,853,987.92	4,105,047.56	4,341,691.43	4,584,997.01	4,812,653.04	4,992,707.10	5,169,620.89
OR	272,273.16	295,448.80	316,929.88	335,128.43	350,000.20	362,414.83	374,107.27	386,155.35	398,439.92	409,207.47

APPENDIX 4.4

ENVIRONMENTAL EXTERNALITIES

APPENDIX 4.4 – ENVIRONMENTAL EXTERNALITIES (OREGON JURISDICTION ONLY)

OVERVIEW

The methodology for determining avoided costs from reduced incremental natural gas usage considers commodity and variable transportation costs only. These avoided cost streams do not include environmental externality costs related to the gathering, transmission, distribution or end-use of natural gas.

Per traditional economic theory and industry practice, an environmental externality factor is typically added to the avoided cost when there is an opportunity to displace traditional supply-side resources with an alternative resource with no adverse environmental impact.

REGULATORY GUIDANCE

The Oregon Public Utility Commission (OPUC) issued Order 93-965 (UM-424) to address how utilities should consider the impact of environmental externalities in planning for future energy resources. The Order required analysis on the potential natural gas cost impacts from emitting carbon dioxide (CO_2) and nitric-oxide (NOx).

The OPUC's Order No. 07-002 in Docket UM 1056 (Investigation Into Integrated Resource Planning) established the following guideline for the treatment of environmental costs used by energy utilities that evaluate demand-side and supply-side energy choices:

> UM 1056, Guideline 8 - Environmental Costs
> *"Utilities should include, in their base-case analyses, the regulatory compliance costs they expect for carbon dioxide (CO_2), nitrogen oxides (NOx), sulfur oxides (SO_2), and mercury (Hg) emissions. Utilities should analyze the range of potential CO2 regulatory costs in Order No. 93-695, from $0 - $40 (1990$). In addition, utilities should perform sensitivity analysis on a range of reasonably possible cost adders for nitrogen oxides (NOx), sulfur dioxide (SO2), and mercury (Hg), if applicable.*

In June 2008, the OPUC issued Order 08-338 (UM1302) which revised UM1056, Guideline 8. The revised guideline requires the utility should construct a base case portfolio to reflect what it considers to be the most likely regulatory compliance future for the various emissions. Additionally the guideline requires the utility to develop several compliance scenarios ranging from the present CO2 regulatory level to the upper reaches of credible proposals and each scenario should include a time profile of CO2 costs. The utility is also required to include a "trigger point" analysis in which the utility must determine at what level of carbon costs its selection of portfolio resources would be significantly different.

ANALYSIS

Unlike electric utilities, environmental cost issues rarely impact a natural gas utility's supply-side resource options. This is because the only supply-side energy resource is natural gas. The utility cannot choose between say "dirty" coal-fired generation and "clean" wind energy sources. The supply-side implication of environmental externalities generally relates to combustion of fuel to move or compress natural gas. Avista's direct gas distribution system infrastructure relies solely on the upstream line pressure of the interstate

pipeline transportation network to distribute natural gas to its customers and thus does not directly combust fuels that result in any CO_2, NOx, SO2, or Hg emissions.

Upstream gas system infrastructure (pipelines, storage facilities, and gathering systems), however, do produce CO_2 emissions via compressors used to pressurize and move natural gas. Accessing CO_2 emissions data on these upstream activities to perform detailed meaningful analysis is challenging but increasingly important given building momentum around legislative developments regarding GHG legislation and the movement towards the creation of carbon cap and trade markets. Avista believes the cap and trade proposals being contemplated are the likely form of environmental externality cost capture versus a carbon tax framework. Under either structure, Avista believes the cost pass through mechanisms for upstream gas system infrastructure will not make a difference in supply-side resource selection although the amount of cost pass through could differ widely.

Table 4.2.1 summarizes a range of environmental cost adders we believe capture several compliance futures including our expected scenario and upper reaches of credible proposals. The CO2 cost adders reflect outlooks we obtained from one of our consultants, and following discussion and feedback from the TAC, have been incorporated into each of our six demand scenarios at various assumption levels.

The guidelines also call for a trigger point analysis that reflects a "turning point" at which an alternate resource portfolio would be selected at different carbon cost adders levels. Because natural gas is the only supply resource applicable to LDC's any alternate resource portfolio selection would be a result of delivery methods of natural gas to customers. Conceptually, there could be differing levels of cost adders applicable to pipeline transported supply versus in service territory LNG storage gas. From a practical standpoint however, the differences in these relative cost adders would be very minor and would not change supply-side resource selection regardless of various carbon cost adder levels. We do acknowledge there is influence on the level of demand-side measures that could be cost effective. This alternate demand-side resource portfolio selection is captured in our overall process of comparing demand-side and supply-side resources described in Chapter 4 – Demand-Side Resources.

CONSERVATON COST ADVANTAGE

For this IRP, we also incorporated a 10 percent environmental externality factor into our assessment of the cost-effectiveness of existing demand-side management programs. Our assessment of prospective demand-side management opportunities is based on an avoided cost stream that includes this 10 percent factor.

Environmental externalities were evaluated in the IRP by adding the cost per therm equivalent of the externality cost values to supply-side resources as described in OPUC Order No. 93-965. Avista found that the environmental cost adders had no impact on the company's supply-side choices, although they did impact the level of demand-side measures that could be cost-effective to acquire.

REGULATORY FILING

Avista will file revised cost-effectiveness limits (CELs) based upon the updated avoided costs available from this IRP process within the prescribed regulatory timetable. We anticipate this will occur in early 2010.

Table 4.2.1 Enviornmental Externalities Cost Adder Analysis (2009$)

			2015	2020	2025	2030
Expected Case - Updated June Data	NOx	$/ton	$ 1,750	$ 1,237	$ 1,205	$ 1,119
		$/lb	$ 0.88	$ 0.62	$ 0.60	$ 0.56
		lbs/therm	0.008	0.008	0.008	0.008
		NOx Adder $/therm	$ 0.01	$ 0.00	$ 0.00	$ 0.00
	CO2	$/ton	$ 12.58	$ 16.69	$ 21.30	$ 27.19
		$/lb	$ 0.0063	$ 0.0083	$ 0.0107	$ 0.0136
		lbs/therm	11.64	11.64	11.64	11.64
		CO2 Adder $/therm	$ 0.07	$ 0.10	$ 0.12	$ 0.16
	Total	**Total Adders $/therm**	**$ 0.08**	**$ 0.10**	**$ 0.13**	**$ 0.16**

			2015	2020	2025	2030
Expected Case (Jan Data)	NOx	$/ton	$ 1,343	$ 1,140	$ 1,137	$ 1,268
		$/lb	$ 0.67	$ 0.57	$ 0.57	$ 0.63
		lbs/therm	0.008	0.008	0.008	0.008
		NOx Adder $/therm	$ 0.01	$ 0.00	$ 0.00	$ 0.01
	CO2	$/ton	$ 21.00	$ 46.00	$ 58.00	$ 71.00
		$/lb	$ 0.0105	$ 0.0230	$ 0.0290	$ 0.0355
		lbs/therm	11.64	11.64	11.64	11.64
		CO2 Adder $/therm	$ 0.12	$ 0.27	$ 0.34	$ 0.41
	Total	**Total Adders $/therm**	**$ 0.13**	**$ 0.27**	**$ 0.34**	**$ 0.42**

			2015	2020	2025	2030
Green Future	NOx	$/ton	$ 1,343	$ 1,140	$ 1,137	$ 1,268
		$/lb	$ 0.67	$ 0.57	$ 0.57	$ 0.63
		lbs/therm	0.008	0.008	0.008	0.008
		NOx Adder $/therm	$ 0.01	$ 0.00	$ 0.00	$ 0.01
	CO2	$/ton	$ 46.45	$ 67.03	$ 96.74	$ 139.60
		$/lb	$ 0.0232	$ 0.0335	$ 0.0484	$ 0.0698
		lbs/therm	11.64	11.64	11.64	11.64
		CO2 Adder $/therm	$ 0.27	$ 0.39	$ 0.56	$ 0.81
	Total	**Total Adders $/therm**	**$ 0.28**	**$ 0.39**	**$ 0.57**	**$ 0.82**

			2015	2020	2025	2030
Expected Case - Updated Alt NOx	NOx	$/ton	$ 7,001	$ 4,947	$ 4,821	$ 4,475
		$/lb	$ 3.50	$ 2.47	$ 2.41	$ 2.24
		lbs/therm	0.008	0.008	0.008	0.008
		NOx Adder $/therm	$ 0.03	$ 0.02	$ 0.02	$ 0.02
	CO2	$/ton	$ 12.58	$ 16.69	$ 21.30	$ 27.19
		$/lb	$ 0.0063	$ 0.0083	$ 0.0107	$ 0.0136
		lbs/therm	11.64	11.64	11.64	11.64
		CO2 Adder $/therm	$ 0.07	$ 0.10	$ 0.12	$ 0.16
	Total	**Total Adders $/therm**	**$ 0.10**	**$ 0.12**	**$ 0.14**	**$ 0.18**

			2015	2020	2025	2030
Expected Case (Jan Data) Alt Nox	NOx	$/ton	$ 5,373	$ 4,560	$ 4,547	$ 5,070
		$/lb	$ 2.69	$ 2.28	$ 2.27	$ 2.54
		lbs/therm	0.008	0.008	0.008	0.008
		NOx Adder $/therm	$ 0.02	$ 0.02	$ 0.02	$ 0.02
	CO2	$/ton	$ 21.00	$ 46.00	$ 58.00	$ 71.00
		$/lb	$ 0.0105	$ 0.0230	$ 0.0290	$ 0.0355
		lbs/therm	11.64	11.64	11.64	11.64
		CO2 Adder $/therm	$ 0.12	$ 0.27	$ 0.34	$ 0.41
	Total	**Total Adders $/therm**	**$ 0.14**	**$ 0.29**	**$ 0.36**	**$ 0.43**

			2015	2020	2025	2030
Green Future Alt Nox	NOx	$/ton	$ 5,373	$ 4,560	$ 4,547	$ 5,070
		$/lb	$ 2.69	$ 2.28	$ 2.27	$ 2.54
		lbs/therm	0.008	0.008	0.008	0.008
		NOx Adder $/therm	$ 0.02	$ 0.02	$ 0.02	$ 0.02
	CO2	$/ton	$ 46.45	$ 67.03	$ 96.74	$ 139.60
		$/lb	$ 0.0232	$ 0.0335	$ 0.0484	$ 0.0698
		lbs/therm	11.64	11.64	11.64	11.64
		CO2 Adder $/therm	$ 0.27	$ 0.39	$ 0.56	$ 0.81
	Total	**Total Adders $/therm**	**$ 0.29**	**$ 0.41**	**$ 0.58**	**$ 0.83**

APPENDIX 5.1

CURRENT TRANSPORTATION RATES

Appendix 5.1 - Current Transportation/Storage Rates and Assumptions
Rates in US$/Dth/Day

	Reservation	Commodity	Fuel Rate 3/	Rate Change Assumptions
TransCanada Alberta System Firm Rates -				
Postage Stamp Rates				
AECo/NIT to ABC	0.1410	-	0.00%	Changes every three years
AECo/NIT to ABC Winter Only	0.1763	-	0.00%	Changes every three years
TransCanada BC System Firm Rates -				
Postage Stamp Rates				
ABC to Kingsgate	0.0460	-	0.80%	Changes every three years
GTN FTS-1 Rates				
Mileage Based - Representative Example				
Kingsgate to Spokane	0.0885	0.0017	0.37%	Changes every five years
Kingsgate to Medford	0.3236	0.0096	2.04%	Changes every five years
Meford Lateral	0.6518	-	0.00%	Changes every five years
Spectra Energy/Westcoast System Firm Rates -				
Postage Stamp Rates				
Station 2 to Huntington/Sumas	0.3991	-	0.80%	Changes every three years
Williams NWP				
Postage Stamp Rates				
TF-1 1/	0.3798	0.03000	1.85%	Changes every five years
TF-2 1/	0.3798	0.03000	1.85%	Changes every five years
SGS-2F 2/	0.4718	0.01703	0.52%	Changes every five years

1/ TF-1 based upon annual delivery capability. TF-2 based upon approximately 32 days of delivery capability
2/ Not applicable for WA/ID Customers
3/ Fuel retained in-kind

APPENDIX 5.2

ALTERNATE SUPPLY SCENARIOS SUMMARY OF ASSUMPTIONS

Appendix 5.2 - Alternate Supply Scenarios

Scenarios

	Existing Resources	Existing + Expected Available	GTN Rate Escallation	GTN Fully Subscribed
INPUT ASSUMPTIONS				
Resources:				
	Currently contracted capacity net of long term releases	Currently contracted capacity net of long term releases	Currently contracted capacity net of long term releases	Currently contracted capacity net of long term releases
		Currently available GTN	Currently available GTN	
		Capacity Release Recalls	Capacity Release Recalls	Capacity Release Recalls
		NWP Expansions	NWP Expansions	NWP Expansions
		Satellite LNG	Satellite LNG	Satellite LNG
		Backhaul plus add'l compression	Backhaul plus add'l compression	
		Liquifiaction LNG	Liquifiaction LNG	Liquifiaction LNG
		Klamath Falls Lateral Purchase	Klamath Falls Lateral Purchase	Klamath Falls Lateral Purchase
Rates:	Current Rates	Current Rates	GTN rate doubles	Current Rates

APPENDIX 6.1

MONTHLY PRICE DATA

Appendix 6.1 - Monthly Price Data by Basin

2009$

Scenario	Index	Gas Year	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Expected Case	AECo	2009-2010	$ 4.33	$ 4.85	$ 4.97	$ 5.05	$ 4.99	$ 4.75	$ 4.65	$ 4.78	$ 4.80	$ 4.89	$ 4.90	$ 5.09
Expected Case	AECo	2010-2011	$ 5.39	$ 5.62	$ 5.56	$ 5.58	$ 5.29	$ 5.03	$ 5.00	$ 5.06	$ 5.06	$ 5.10	$ 5.13	$ 5.27
Expected Case	AECo	2011-2012	$ 5.46	$ 5.63	$ 5.73	$ 5.73	$ 5.42	$ 5.17	$ 5.17	$ 5.22	$ 5.22	$ 5.24	$ 5.22	$ 5.37
Expected Case	AECo	2012-2013	$ 5.55	$ 5.66	$ 6.20	$ 6.25	$ 5.76	$ 5.50	$ 5.50	$ 5.54	$ 5.56	$ 5.59	$ 5.57	$ 5.66
Expected Case	AECo	2013-2014	$ 5.11	$ 5.19	$ 5.25	$ 5.27	$ 5.06	$ 4.94	$ 5.01	$ 5.04	$ 5.06	$ 5.07	$ 5.03	$ 5.16
Expected Case	AECo	2014-2015	$ 6.10	$ 6.22	$ 7.54	$ 7.60	$ 7.34	$ 7.16	$ 7.22	$ 7.27	$ 7.30	$ 7.34	$ 7.28	$ 7.43
Expected Case	AECo	2015-2016	$ 7.83	$ 7.97	$ 8.39	$ 8.42	$ 8.24	$ 8.13	$ 8.20	$ 8.27	$ 8.27	$ 8.29	$ 8.28	$ 8.37
Expected Case	AECo	2016-2017	$ 8.77	$ 8.86	$ 9.18	$ 9.16	$ 8.80	$ 8.69	$ 8.71	$ 8.74	$ 8.78	$ 8.81	$ 8.79	$ 8.92
Expected Case	AECo	2017-2018	$ 9.40	$ 9.47	$ 10.34	$ 10.36	$ 10.03	$ 9.83	$ 9.78	$ 9.86	$ 9.85	$ 9.91	$ 9.89	$ 10.08
Expected Case	AECo	2018-2019	$ 10.62	$ 10.71	$ 10.83	$ 10.82	$ 10.57	$ 10.31	$ 10.31	$ 10.35	$ 10.39	$ 10.43	$ 10.38	$ 10.54
Expected Case	AECo	2019-2020	$ 10.91	$ 11.06	$ 11.22	$ 11.25	$ 10.71	$ 10.58	$ 10.56	$ 10.58	$ 10.61	$ 10.65	$ 10.34	$ 10.41
Expected Case	AECo	2020-2021	$ 10.79	$ 10.92	$ 11.08	$ 11.13	$ 10.92	$ 10.59	$ 10.61	$ 10.63	$ 10.65	$ 10.67	$ 10.49	$ 10.55
Expected Case	AECo	2021-2022	$ 10.91	$ 10.98	$ 11.14	$ 11.17	$ 10.91	$ 10.60	$ 10.61	$ 10.66	$ 10.61	$ 10.66	$ 10.67	$ 10.78
Expected Case	AECo	2022-2023	$ 11.12	$ 11.26	$ 11.43	$ 11.47	$ 11.12	$ 10.87	$ 10.84	$ 10.86	$ 10.87	$ 10.79	$ 10.72	$ 10.86
Expected Case	AECo	2023-2024	$ 11.10	$ 11.18	$ 11.19	$ 11.16	$ 10.74	$ 10.61	$ 10.62	$ 10.65	$ 10.63	$ 10.68	$ 10.70	$ 10.71
Expected Case	AECo	2024-2025	$ 10.99	$ 11.11	$ 11.30	$ 11.38	$ 10.97	$ 10.77	$ 10.78	$ 10.80	$ 10.78	$ 10.82	$ 10.83	$ 10.84
Expected Case	AECo	2025-2026	$ 11.14	$ 11.29	$ 11.46	$ 11.45	$ 11.16	$ 10.97	$ 10.98	$ 10.99	$ 10.98	$ 11.02	$ 11.03	$ 11.06
Expected Case	AECo	2026-2027	$ 11.38	$ 11.52	$ 11.73	$ 11.71	$ 11.34	$ 11.18	$ 11.23	$ 11.21	$ 11.27	$ 11.31	$ 11.34	$ 11.48
Expected Case	AECo	2027-2028	$ 11.55	$ 11.66	$ 11.88	$ 11.91	$ 11.51	$ 11.37	$ 11.40	$ 11.40	$ 11.45	$ 11.50	$ 11.55	$ 11.67
Expected Case	AECo	2028-2029	$ 11.76	$ 11.85	$ 12.08	$ 12.11	$ 11.73	$ 11.55	$ 11.58	$ 11.60	$ 11.62	$ 11.66	$ 11.68	$ 11.84
Expected Case	AECo	2029-2030	$ 11.84	$ 11.84										
Expected Case	Malin	2009-2010	$ 4.67	$ 5.19	$ 5.32	$ 5.40	$ 5.26	$ 5.03	$ 4.91	$ 5.08	$ 5.13	$ 5.24	$ 5.24	$ 5.41
Expected Case	Malin	2010-2011	$ 5.74	$ 5.96	$ 5.88	$ 5.90	$ 5.57	$ 5.31	$ 5.29	$ 5.36	$ 5.36	$ 5.41	$ 5.44	$ 5.57
Expected Case	Malin	2011-2012	$ 5.74	$ 5.92	$ 6.00	$ 6.00	$ 5.65	$ 5.41	$ 5.40	$ 5.46	$ 5.48	$ 5.51	$ 5.49	$ 5.63
Expected Case	Malin	2012-2013	$ 5.80	$ 5.92	$ 6.45	$ 6.50	$ 5.95	$ 5.71	$ 5.72	$ 5.75	$ 5.81	$ 5.86	$ 5.83	$ 5.91
Expected Case	Malin	2013-2014	$ 5.36	$ 5.45	$ 5.48	$ 5.51	$ 5.22	$ 5.14	$ 5.22	$ 5.24	$ 5.28	$ 5.31	$ 5.27	$ 5.40
Expected Case	Malin	2014-2015	$ 6.33	$ 6.45	$ 7.75	$ 7.83	$ 7.49	$ 7.35	$ 7.41	$ 7.45	$ 7.52	$ 7.56	$ 7.51	$ 7.66
Expected Case	Malin	2015-2016	$ 8.04	$ 8.18	$ 8.59	$ 8.62	$ 8.37	$ 8.30	$ 8.37	$ 8.44	$ 8.49	$ 8.51	$ 8.51	$ 8.58
Expected Case	Malin	2016-2017	$ 8.99	$ 9.09	$ 9.39	$ 9.37	$ 8.95	$ 8.88	$ 8.91	$ 8.94	$ 9.01	$ 9.05	$ 9.02	$ 9.15
Expected Case	Malin	2017-2018	$ 9.61	$ 9.69	$ 10.54	$ 10.57	$ 10.17	$ 10.01	$ 9.99	$ 10.05	$ 10.08	$ 10.16	$ 10.14	$ 10.31
Expected Case	Malin	2018-2019	$ 10.85	$ 10.94	$ 11.00	$ 11.00	$ 10.71	$ 10.48	$ 10.50	$ 10.53	$ 10.63	$ 10.67	$ 10.63	$ 10.78
Expected Case	Malin	2019-2020	$ 11.14	$ 11.28	$ 11.39	$ 11.44	$ 10.87	$ 10.76	$ 10.76	$ 10.78	$ 10.86	$ 10.89	$ 10.60	$ 10.64
Expected Case	Malin	2020-2021	$ 11.02	$ 11.15	$ 11.26	$ 11.31	$ 11.06	$ 10.78	$ 10.79	$ 10.83	$ 10.88	$ 10.91	$ 10.74	$ 10.76
Expected Case	Malin	2021-2022	$ 11.12	$ 11.20	$ 11.30	$ 11.34	$ 11.04	$ 10.78	$ 10.79	$ 10.84	$ 10.84	$ 10.89	$ 10.90	$ 10.98
Expected Case	Malin	2022-2023	$ 11.32	$ 11.46	$ 11.59	$ 11.63	$ 11.26	$ 11.03	$ 11.00	$ 11.02	$ 11.07	$ 11.03	$ 10.99	$ 11.14
Expected Case	Malin	2023-2024	$ 11.42	$ 11.52	$ 11.46	$ 11.45	$ 11.00	$ 10.87	$ 10.90	$ 10.92	$ 10.98	$ 11.03	$ 11.07	$ 11.07
Expected Case	Malin	2024-2025	$ 11.33	$ 11.45	$ 11.62	$ 11.71	$ 11.25	$ 11.06	$ 11.07	$ 11.09	$ 11.14	$ 11.18	$ 11.21	$ 11.19
Expected Case	Malin	2025-2026	$ 11.49	$ 11.64	$ 11.79	$ 11.80	$ 11.44	$ 11.27	$ 11.29	$ 11.30	$ 11.34	$ 11.38	$ 11.40	$ 11.42
Expected Case	Malin	2026-2027	$ 11.74	$ 11.88	$ 12.06	$ 12.05	$ 11.63	$ 11.48	$ 11.53	$ 11.54	$ 11.62	$ 11.67	$ 11.71	$ 11.85
Expected Case	Malin	2027-2028	$ 11.91	$ 12.03	$ 12.20	$ 12.24	$ 11.79	$ 11.66	$ 11.72	$ 11.73	$ 11.80	$ 11.85	$ 11.91	$ 12.04
Expected Case	Malin	2028-2029	$ 12.13	$ 12.23	$ 12.42	$ 12.46	$ 12.01	$ 11.84	$ 11.90	$ 11.91	$ 11.96	$ 12.00	$ 12.04	$ 12.20
Expected Case	Malin	2029-2030	$ 12.20	$ 12.20										
Expected Case	Rockies	2009-2010	$ 4.42	$ 4.92	$ 5.05	$ 5.17	$ 4.99	$ 4.75	$ 4.70	$ 4.70	$ 4.78	$ 4.88	$ 4.94	$ 5.16
Expected Case	Rockies	2010-2011	$ 5.55	$ 5.75	$ 5.69	$ 5.71	$ 5.36	$ 5.07	$ 5.07	$ 4.99	$ 5.06	$ 5.10	$ 5.13	$ 5.32
Expected Case	Rockies	2011-2012	$ 5.60	$ 5.73	$ 5.84	$ 5.84	$ 5.46	$ 5.23	$ 5.25	$ 5.15	$ 5.22	$ 5.24	$ 5.21	$ 5.41
Expected Case	Rockies	2012-2013	$ 5.59	$ 5.66	$ 6.20	$ 6.25	$ 5.68	$ 5.46	$ 5.49	$ 5.39	$ 5.48	$ 5.52	$ 5.50	$ 5.62
Expected Case	Rockies	2013-2014	$ 5.06	$ 5.10	$ 5.15	$ 5.19	$ 4.89	$ 4.84	$ 4.93	$ 4.83	$ 4.91	$ 4.93	$ 4.88	$ 5.03
Expected Case	Rockies	2014-2015	$ 5.97	$ 6.05	$ 7.36	$ 7.45	$ 7.09	$ 6.96	$ 7.04	$ 6.95	$ 7.07	$ 7.09	$ 7.03	$ 7.19
Expected Case	Rockies	2015-2016	$ 7.60	$ 7.73	$ 8.13	$ 8.16	$ 7.88	$ 7.84	$ 7.93	$ 7.86	$ 7.94	$ 7.95	$ 7.95	$ 8.04
Expected Case	Rockies	2016-2017	$ 8.54	$ 8.60	$ 8.91	$ 8.90	$ 8.50	$ 8.47	$ 8.53	$ 8.43	$ 8.53	$ 8.57	$ 8.54	$ 8.69
Expected Case	Rockies	2017-2018	$ 9.13	$ 9.16	$ 10.03	$ 10.06	$ 9.68	$ 9.57	$ 9.58	$ 9.51	$ 9.58	$ 9.64	$ 9.62	$ 9.83
Expected Case	Rockies	2018-2019	$ 10.32	$ 10.38	$ 10.49	$ 10.49	$ 10.23	$ 10.04	$ 10.09	$ 10.00	$ 10.11	$ 10.14	$ 10.09	$ 10.27
Expected Case	Rockies	2019-2020	$ 10.60	$ 10.71	$ 10.87	$ 10.91	$ 10.34	$ 10.29	$ 10.30	$ 10.19	$ 10.27	$ 10.31	$ 10.01	$ 10.10
Expected Case	Rockies	2020-2021	$ 10.41	$ 10.50	$ 10.67	$ 10.70	$ 10.40	$ 10.18	$ 10.20	$ 10.09	$ 10.16	$ 10.19	$ 10.00	$ 10.08
Expected Case	Rockies	2021-2022	$ 10.41	$ 10.44	$ 10.58	$ 10.62	$ 10.33	$ 10.11	$ 10.14	$ 10.06	$ 10.08	$ 10.12	$ 10.14	$ 10.26
Expected Case	Rockies	2022-2023	$ 10.57	$ 10.68	$ 10.83	$ 10.87	$ 10.52	$ 10.35	$ 10.33	$ 10.21	$ 10.31	$ 10.27	$ 10.26	$ 10.45
Expected Case	Rockies	2023-2024	$ 10.74	$ 10.80	$ 10.91	$ 10.94	$ 10.56	$ 10.42	$ 10.47	$ 10.35	$ 10.40	$ 10.45	$ 10.49	$ 10.54
Expected Case	Rockies	2024-2025	$ 10.83	$ 10.93	$ 11.12	$ 11.20	$ 10.80	$ 10.60	$ 10.63	$ 10.52	$ 10.56	$ 10.60	$ 10.63	$ 10.67
Expected Case	Rockies	2025-2026	$ 10.98	$ 11.10	$ 11.25	$ 11.27	$ 10.97	$ 10.77	$ 10.81	$ 10.66	$ 10.72	$ 10.75	$ 10.76	$ 10.82
Expected Case	Rockies	2026-2027	$ 11.15	$ 11.27	$ 11.46	$ 11.46	$ 11.12	$ 10.93	$ 10.98	$ 10.83	$ 10.94	$ 10.98	$ 11.02	$ 11.19
Expected Case	Rockies	2027-2028	$ 11.24	$ 11.32	$ 11.52	$ 11.55	$ 11.20	$ 11.03	$ 11.09	$ 10.95	$ 11.06	$ 11.09	$ 11.15	$ 11.33
Expected Case	Rockies	2028-2029	$ 11.41	$ 11.47	$ 11.66	$ 11.70	$ 11.35	$ 11.19	$ 11.21	$ 11.09	$ 11.20	$ 11.23	$ 11.27	$ 11.48
Expected Case	Rockies	2029-2030	$ 11.48	$ 11.48										

Appendix 6.1 - Monthly Price Data by Basin

2009$

Scenario	Index	Gas Year	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Expected Case	Stanfield	2009-2010	$ 4.53	$ 5.04	$ 5.17	$ 5.25	$ 5.14	$ 4.90	$ 4.79	$ 4.94	$ 4.97	$ 5.07	$ 5.08	$ 5.26
Expected Case	Stanfield	2010-2011	$ 5.58	$ 5.80	$ 6.75	$ 5.77	$ 5.45	$ 5.18	$ 5.16	$ 5.21	$ 5.21	$ 5.26	$ 5.29	$ 5.43
Expected Case	Stanfield	2011-2012	$ 5.62	$ 5.79	$ 5.88	$ 5.88	$ 5.55	$ 5.29	$ 5.29	$ 5.35	$ 5.35	$ 5.38	$ 5.36	$ 5.51
Expected Case	Stanfield	2012-2013	$ 5.69	$ 5.81	$ 6.34	$ 6.39	$ 5.86	$ 5.62	$ 5.61	$ 5.65	$ 5.69	$ 5.73	$ 5.71	$ 5.79
Expected Case	Stanfield	2013-2014	$ 5.25	$ 5.33	$ 5.38	$ 5.41	$ 5.15	$ 5.04	$ 5.12	$ 5.14	$ 5.16	$ 5.19	$ 5.15	$ 5.28
Expected Case	Stanfield	2014-2015	$ 6.22	$ 6.35	$ 7.66	$ 7.73	$ 7.42	$ 7.25	$ 7.31	$ 7.35	$ 7.41	$ 7.44	$ 7.39	$ 7.55
Expected Case	Stanfield	2015-2016	$ 7.95	$ 8.09	$ 8.50	$ 8.53	$ 8.31	$ 8.22	$ 8.29	$ 8.35	$ 8.38	$ 8.39	$ 8.39	$ 8.48
Expected Case	Stanfield	2016-2017	$ 8.89	$ 8.99	$ 9.29	$ 9.28	$ 8.89	$ 8.78	$ 8.81	$ 8.84	$ 8.89	$ 8.93	$ 8.91	$ 9.04
Expected Case	Stanfield	2017-2018	$ 9.52	$ 9.59	$ 10.45	$ 10.48	$ 10.11	$ 9.92	$ 9.89	$ 9.95	$ 9.96	$ 10.03	$ 10.01	$ 10.20
Expected Case	Stanfield	2018-2019	$ 10.75	$ 10.84	$ 10.92	$ 10.93	$ 10.65	$ 10.40	$ 10.40	$ 10.44	$ 10.50	$ 10.54	$ 10.50	$ 10.66
Expected Case	Stanfield	2019-2020	$ 11.04	$ 11.18	$ 11.32	$ 11.36	$ 10.80	$ 10.67	$ 10.66	$ 10.68	$ 10.73	$ 10.76	$ 10.47	$ 10.53
Expected Case	Stanfield	2020-2021	$ 10.92	$ 11.05	$ 11.18	$ 11.23	$ 11.00	$ 10.69	$ 10.70	$ 10.73	$ 10.76	$ 10.79	$ 10.61	$ 10.66
Expected Case	Stanfield	2021-2022	$ 11.03	$ 11.10	$ 11.23	$ 11.27	$ 10.97	$ 10.69	$ 10.71	$ 10.75	$ 10.72	$ 10.77	$ 10.79	$ 10.88
Expected Case	Stanfield	2022-2023	$ 11.24	$ 11.37	$ 11.52	$ 11.56	$ 11.19	$ 10.95	$ 10.91	$ 10.93	$ 10.97	$ 10.91	$ 10.86	$ 11.01
Expected Case	Stanfield	2023-2024	$ 11.28	$ 11.36	$ 11.34	$ 11.32	$ 10.88	$ 10.74	$ 10.76	$ 10.79	$ 10.81	$ 10.86	$ 10.90	$ 10.90
Expected Case	Stanfield	2024-2025	$ 11.18	$ 11.30	$ 11.48	$ 11.56	$ 11.12	$ 10.92	$ 10.93	$ 10.95	$ 10.96	$ 11.00	$ 11.03	$ 11.02
Expected Case	Stanfield	2025-2026	$ 11.33	$ 11.48	$ 11.64	$ 11.64	$ 11.31	$ 11.13	$ 11.14	$ 11.15	$ 11.16	$ 11.20	$ 11.23	$ 11.25
Expected Case	Stanfield	2026-2027	$ 11.58	$ 11.72	$ 11.91	$ 11.90	$ 11.49	$ 11.34	$ 11.39	$ 11.38	$ 11.44	$ 11.49	$ 11.53	$ 11.68
Expected Case	Stanfield	2027-2028	$ 11.75	$ 11.86	$ 12.05	$ 12.09	$ 11.66	$ 11.52	$ 11.56	$ 11.57	$ 11.63	$ 11.68	$ 11.74	$ 11.87
Expected Case	Stanfield	2028-2029	$ 11.96	$ 12.06	$ 12.26	$ 12.30	$ 11.88	$ 11.71	$ 11.75	$ 11.76	$ 11.79	$ 11.83	$ 11.87	$ 12.03
Expected Case	Stanfield	2029-2030	$ 12.03	$ 12.03										
Expected Case	Sumas	2009-2010	$ 4.63	$ 5.15	$ 5.28	$ 5.36	$ 5.23	$ 4.86	$ 4.64	$ 4.75	$ 4.78	$ 4.88	$ 4.91	$ 5.19
Expected Case	Sumas	2010-2011	$ 5.70	$ 5.92	$ 5.87	$ 5.89	$ 5.54	$ 5.15	$ 5.01	$ 5.05	$ 5.05	$ 5.10	$ 5.15	$ 5.37
Expected Case	Sumas	2011-2012	$ 5.71	$ 5.88	$ 5.99	$ 6.00	$ 5.63	$ 5.30	$ 5.18	$ 5.21	$ 5.22	$ 5.25	$ 5.24	$ 5.44
Expected Case	Sumas	2012-2013	$ 5.80	$ 5.91	$ 6.45	$ 6.50	$ 5.93	$ 5.61	$ 5.51	$ 5.54	$ 5.57	$ 5.61	$ 5.61	$ 5.71
Expected Case	Sumas	2013-2014	$ 5.34	$ 5.43	$ 5.48	$ 5.51	$ 5.21	$ 5.04	$ 5.03	$ 5.05	$ 5.07	$ 5.09	$ 5.07	$ 5.22
Expected Case	Sumas	2014-2015	$ 6.31	$ 6.43	$ 7.75	$ 7.83	$ 7.48	$ 7.25	$ 7.25	$ 7.28	$ 7.33	$ 7.36	$ 7.33	$ 7.50
Expected Case	Sumas	2015-2016	$ 8.02	$ 8.17	$ 8.59	$ 8.62	$ 8.37	$ 8.22	$ 8.24	$ 8.30	$ 8.30	$ 8.32	$ 8.34	$ 8.45
Expected Case	Sumas	2016-2017	$ 8.97	$ 9.07	$ 9.39	$ 9.38	$ 8.94	$ 8.78	$ 8.76	$ 8.77	$ 8.81	$ 8.85	$ 8.84	$ 9.00
Expected Case	Sumas	2017-2018	$ 9.60	$ 9.67	$ 10.54	$ 10.58	$ 10.17	$ 9.92	$ 9.82	$ 9.88	$ 9.88	$ 9.95	$ 9.95	$ 10.16
Expected Case	Sumas	2018-2019	$ 10.83	$ 10.92	$ 11.04	$ 11.04	$ 10.71	$ 10.39	$ 10.36	$ 10.38	$ 10.43	$ 10.48	$ 10.45	$ 10.63
Expected Case	Sumas	2019-2020	$ 11.12	$ 11.27	$ 11.43	$ 11.48	$ 10.87	$ 10.67	$ 10.61	$ 10.63	$ 10.65	$ 10.70	$ 10.43	$ 10.51
Expected Case	Sumas	2020-2021	$ 11.01	$ 11.14	$ 11.30	$ 11.35	$ 11.06	$ 10.69	$ 10.67	$ 10.68	$ 10.70	$ 10.73	$ 10.58	$ 10.86
Expected Case	Sumas	2021-2022	$ 11.13	$ 11.20	$ 11.37	$ 11.42	$ 11.04	$ 10.69	$ 10.67	$ 10.71	$ 10.66	$ 10.72	$ 10.75	$ 10.88
Expected Case	Sumas	2022-2023	$ 11.32	$ 11.46	$ 11.64	$ 11.69	$ 11.25	$ 10.97	$ 10.90	$ 10.90	$ 10.92	$ 10.84	$ 10.80	$ 10.95
Expected Case	Sumas	2023-2024	$ 11.38	$ 11.48	$ 11.50	$ 11.46	$ 10.92	$ 10.68	$ 10.64	$ 10.65	$ 10.64	$ 10.70	$ 10.74	$ 10.77
Expected Case	Sumas	2024-2025	$ 11.31	$ 11.43	$ 11.62	$ 11.71	$ 11.17	$ 10.86	$ 10.80	$ 10.81	$ 10.80	$ 10.84	$ 10.88	$ 10.91
Expected Case	Sumas	2025-2026	$ 11.48	$ 11.63	$ 11.79	$ 11.80	$ 11.35	$ 11.07	$ 11.01	$ 11.01	$ 11.01	$ 11.05	$ 11.08	$ 11.14
Expected Case	Sumas	2026-2027	$ 11.71	$ 11.85	$ 12.06	$ 12.06	$ 11.48	$ 11.28	$ 11.26	$ 11.16	$ 11.22	$ 11.26	$ 11.39	$ 11.56
Expected Case	Sumas	2027-2028	$ 11.87	$ 11.99	$ 12.20	$ 12.24	$ 11.65	$ 11.48	$ 11.44	$ 11.35	$ 11.41	$ 11.46	$ 11.62	$ 11.76
Expected Case	Sumas	2028-2029	$ 12.10	$ 12.20	$ 12.42	$ 12.46	$ 11.92	$ 11.67	$ 11.62	$ 11.55	$ 11.58	$ 11.62	$ 11.74	$ 11.93
Expected Case	Sumas	2029-2030	$ 11.93	$ 11.93										

Appendix 6.1 - Monthly Price Data by Basin

2009$

Scenario	Index	Gas Year	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Updated Expected	AECo	2009-2010	$ 3.91	$ 4.43	$ 4.57	$ 4.56	$ 4.52	$ 4.33	$ 4.23	$ 4.34	$ 4.35	$ 4.41	$ 4.41	$ 4.58
Updated Expected	AECo	2010-2011	$ 4.80	$ 5.02	$ 5.18	$ 5.19	$ 4.97	$ 4.73	$ 4.74	$ 4.80	$ 4.82	$ 4.87	$ 4.83	$ 4.97
Updated Expected	AECo	2011-2012	$ 5.09	$ 5.24	$ 5.32	$ 5.32	$ 5.19	$ 4.93	$ 4.90	$ 4.95	$ 4.94	$ 4.97	$ 5.01	$ 5.14
Updated Expected	AECo	2012-2013	$ 5.26	$ 5.38	$ 5.44	$ 5.46	$ 5.29	$ 5.06	$ 5.02	$ 5.06	$ 5.04	$ 5.06	$ 5.11	$ 5.23
Updated Expected	AECo	2013-2014	$ 4.62	$ 4.69	$ 4.85	$ 4.87	$ 4.66	$ 4.55	$ 4.55	$ 4.56	$ 4.52	$ 4.54	$ 4.57	$ 4.68
Updated Expected	AECo	2014-2015	$ 5.56	$ 5.63	$ 6.57	$ 6.60	$ 6.37	$ 6.25	$ 6.26	$ 6.27	$ 6.25	$ 6.27	$ 6.30	$ 6.42
Updated Expected	AECo	2015-2016	$ 6.75	$ 6.83	$ 6.84	$ 6.86	$ 6.69	$ 6.55	$ 6.55	$ 6.58	$ 6.55	$ 6.58	$ 6.61	$ 6.73
Updated Expected	AECo	2016-2017	$ 7.05	$ 7.13	$ 7.16	$ 7.19	$ 6.70	$ 6.58	$ 6.58	$ 6.60	$ 6.57	$ 6.59	$ 6.63	$ 6.75
Updated Expected	AECo	2017-2018	$ 7.07	$ 7.15	$ 7.18	$ 7.21	$ 6.65	$ 6.51	$ 6.48	$ 6.51	$ 6.48	$ 6.52	$ 6.55	$ 6.68
Updated Expected	AECo	2018-2019	$ 7.00	$ 7.07	$ 7.06	$ 7.09	$ 6.83	$ 6.67	$ 6.66	$ 6.68	$ 6.65	$ 6.68	$ 6.71	$ 6.85
Updated Expected	AECo	2019-2020	$ 7.16	$ 7.24	$ 7.26	$ 7.28	$ 7.04	$ 6.89	$ 6.87	$ 6.89	$ 6.86	$ 6.88	$ 6.92	$ 7.04
Updated Expected	AECo	2020-2021	$ 7.36	$ 7.43	$ 7.48	$ 7.52	$ 7.36	$ 7.16	$ 7.16	$ 7.18	$ 7.15	$ 7.17	$ 7.21	$ 7.32
Updated Expected	AECo	2021-2022	$ 7.66	$ 7.74	$ 7.85	$ 7.88	$ 7.23	$ 7.03	$ 7.02	$ 7.05	$ 7.02	$ 7.05	$ 7.09	$ 7.20
Updated Expected	AECo	2022-2023	$ 7.56	$ 7.64	$ 7.60	$ 7.63	$ 7.28	$ 7.08	$ 7.05	$ 7.07	$ 7.04	$ 6.99	$ 6.94	$ 6.96
Updated Expected	AECo	2023-2024	$ 7.11	$ 7.17	$ 7.50	$ 7.45	$ 6.43	$ 6.33	$ 6.33	$ 6.36	$ 6.36	$ 6.39	$ 6.42	$ 6.53
Updated Expected	AECo	2024-2025	$ 6.84	$ 6.91	$ 6.88	$ 6.91	$ 6.66	$ 6.54	$ 6.55	$ 6.57	$ 6.56	$ 6.59	$ 6.63	$ 6.74
Updated Expected	AECo	2025-2026	$ 7.06	$ 7.14	$ 7.08	$ 7.11	$ 6.87	$ 6.75	$ 6.75	$ 6.77	$ 6.74	$ 6.77	$ 6.80	$ 6.91
Updated Expected	AECo	2026-2027	$ 7.21	$ 7.30	$ 7.54	$ 7.56	$ 6.97	$ 6.85	$ 6.87	$ 6.90	$ 6.87	$ 6.90	$ 6.93	$ 7.04
Updated Expected	AECo	2027-2028	$ 7.36	$ 7.43	$ 7.37	$ 7.41	$ 7.05	$ 6.96	$ 6.96	$ 7.00	$ 6.97	$ 7.00	$ 7.04	$ 7.14
Updated Expected	AECo	2028-2029	$ 7.47	$ 7.54	$ 7.46	$ 7.49	$ 7.22	$ 7.08	$ 7.10	$ 7.13	$ 7.04	$ 7.04	$ 7.15	$ 7.23
Updated Expected	AECo	2029-2030	$ 7.23	$ 7.23										
Updated Expected	Malin	2009-2010	$ 4.25	$ 4.77	$ 4.92	$ 4.91	$ 4.80	$ 4.60	$ 4.49	$ 4.64	$ 4.69	$ 4.75	$ 4.75	$ 4.90
Updated Expected	Malin	2010-2011	$ 5.14	$ 5.36	$ 5.50	$ 5.52	$ 5.25	$ 5.01	$ 5.03	$ 5.08	$ 5.12	$ 5.19	$ 5.15	$ 5.28
Updated Expected	Malin	2011-2012	$ 5.37	$ 5.52	$ 5.59	$ 5.59	$ 5.43	$ 5.17	$ 5.14	$ 5.19	$ 5.20	$ 5.23	$ 5.27	$ 5.40
Updated Expected	Malin	2012-2013	$ 5.52	$ 5.63	$ 5.69	$ 5.71	$ 5.48	$ 5.27	$ 5.25	$ 5.28	$ 5.29	$ 5.34	$ 5.38	$ 5.48
Updated Expected	Malin	2013-2014	$ 4.88	$ 4.95	$ 5.08	$ 5.11	$ 4.83	$ 4.75	$ 4.75	$ 4.76	$ 4.74	$ 4.78	$ 4.81	$ 4.92
Updated Expected	Malin	2014-2015	$ 5.78	$ 5.86	$ 6.79	$ 6.82	$ 6.52	$ 6.43	$ 6.44	$ 6.46	$ 6.46	$ 6.49	$ 6.53	$ 6.64
Updated Expected	Malin	2015-2016	$ 6.96	$ 7.04	$ 7.04	$ 7.06	$ 6.82	$ 6.72	$ 6.73	$ 6.75	$ 6.77	$ 6.80	$ 6.84	$ 6.94
Updated Expected	Malin	2016-2017	$ 7.27	$ 7.35	$ 7.37	$ 7.41	$ 6.85	$ 6.77	$ 6.78	$ 6.80	$ 6.80	$ 6.83	$ 6.87	$ 6.98
Updated Expected	Malin	2017-2018	$ 7.28	$ 7.36	$ 7.38	$ 7.42	$ 6.79	$ 6.69	$ 6.69	$ 6.70	$ 6.72	$ 6.76	$ 6.80	$ 6.91
Updated Expected	Malin	2018-2019	$ 7.22	$ 7.30	$ 7.23	$ 7.27	$ 6.97	$ 6.84	$ 6.85	$ 6.87	$ 6.88	$ 6.92	$ 6.96	$ 7.08
Updated Expected	Malin	2019-2020	$ 7.39	$ 7.47	$ 7.44	$ 7.48	$ 7.19	$ 7.07	$ 7.07	$ 7.09	$ 7.11	$ 7.13	$ 7.17	$ 7.27
Updated Expected	Malin	2020-2021	$ 7.59	$ 7.67	$ 7.66	$ 7.70	$ 7.51	$ 7.34	$ 7.35	$ 7.37	$ 7.38	$ 7.41	$ 7.45	$ 7.54
Updated Expected	Malin	2021-2022	$ 7.88	$ 7.96	$ 8.01	$ 8.05	$ 7.36	$ 7.21	$ 7.20	$ 7.22	$ 7.24	$ 7.28	$ 7.32	$ 7.41
Updated Expected	Malin	2022-2023	$ 7.76	$ 7.84	$ 7.75	$ 7.79	$ 7.41	$ 7.23	$ 7.21	$ 7.23	$ 7.24	$ 7.24	$ 7.21	$ 7.25
Updated Expected	Malin	2023-2024	$ 7.44	$ 7.51	$ 7.76	$ 7.75	$ 6.69	$ 6.60	$ 6.61	$ 6.64	$ 6.71	$ 6.74	$ 6.79	$ 6.89
Updated Expected	Malin	2024-2025	$ 7.18	$ 7.25	$ 7.19	$ 7.23	$ 6.93	$ 6.83	$ 6.85	$ 6.86	$ 6.92	$ 6.96	$ 7.01	$ 7.09
Updated Expected	Malin	2025-2026	$ 7.41	$ 7.49	$ 7.41	$ 7.45	$ 7.15	$ 7.05	$ 7.07	$ 7.08	$ 7.10	$ 7.13	$ 7.18	$ 7.28
Updated Expected	Malin	2026-2027	$ 7.57	$ 7.65	$ 7.86	$ 7.90	$ 7.26	$ 7.15	$ 7.18	$ 7.23	$ 7.22	$ 7.26	$ 7.30	$ 7.41
Updated Expected	Malin	2027-2028	$ 7.72	$ 7.80	$ 7.70	$ 7.73	$ 7.34	$ 7.25	$ 7.28	$ 7.33	$ 7.32	$ 7.35	$ 7.39	$ 7.51
Updated Expected	Malin	2028-2029	$ 7.84	$ 7.92	$ 7.80	$ 7.84	$ 7.50	$ 7.37	$ 7.41	$ 7.44	$ 7.38	$ 7.38	$ 7.50	$ 7.59
Updated Expected	Malin	2029-2030	$ 7.59	$ 7.59										
Updated Expected	Rockies	2009-2010	$ 4.00	$ 4.50	$ 4.65	$ 4.68	$ 4.53	$ 4.33	$ 4.27	$ 4.26	$ 4.34	$ 4.39	$ 4.44	$ 4.65
Updated Expected	Rockies	2010-2011	$ 4.95	$ 5.16	$ 5.31	$ 5.33	$ 5.04	$ 4.78	$ 4.81	$ 4.73	$ 4.82	$ 4.86	$ 4.83	$ 5.03
Updated Expected	Rockies	2011-2012	$ 5.23	$ 5.34	$ 5.42	$ 5.44	$ 5.23	$ 4.99	$ 4.98	$ 4.87	$ 4.95	$ 4.97	$ 4.99	$ 5.18
Updated Expected	Rockies	2012-2013	$ 5.30	$ 5.38	$ 5.44	$ 5.47	$ 5.21	$ 5.02	$ 5.02	$ 4.92	$ 4.96	$ 5.00	$ 5.04	$ 5.19
Updated Expected	Rockies	2013-2014	$ 4.57	$ 4.60	$ 4.75	$ 4.79	$ 4.49	$ 4.45	$ 4.47	$ 4.35	$ 4.38	$ 4.40	$ 4.42	$ 4.56
Updated Expected	Rockies	2014-2015	$ 5.42	$ 5.46	$ 6.40	$ 6.44	$ 6.12	$ 6.05	$ 6.07	$ 5.96	$ 6.01	$ 6.01	$ 6.05	$ 6.18
Updated Expected	Rockies	2015-2016	$ 6.52	$ 6.58	$ 6.57	$ 6.61	$ 6.33	$ 6.26	$ 6.28	$ 6.17	$ 6.22	$ 6.24	$ 6.28	$ 6.40
Updated Expected	Rockies	2016-2017	$ 6.83	$ 6.86	$ 6.89	$ 6.93	$ 6.40	$ 6.37	$ 6.40	$ 6.29	$ 6.32	$ 6.35	$ 6.38	$ 6.52
Updated Expected	Rockies	2017-2018	$ 6.80	$ 6.84	$ 6.87	$ 6.91	$ 6.30	$ 6.25	$ 6.28	$ 6.17	$ 6.22	$ 6.25	$ 6.28	$ 6.42
Updated Expected	Rockies	2018-2019	$ 6.69	$ 6.74	$ 6.72	$ 6.76	$ 6.48	$ 6.40	$ 6.44	$ 6.33	$ 6.37	$ 6.39	$ 6.43	$ 6.58
Updated Expected	Rockies	2019-2020	$ 6.85	$ 6.90	$ 6.91	$ 6.94	$ 6.67	$ 6.60	$ 6.61	$ 6.49	$ 6.52	$ 6.55	$ 6.58	$ 6.72
Updated Expected	Rockies	2020-2021	$ 6.97	$ 7.02	$ 7.07	$ 7.10	$ 6.85	$ 6.74	$ 6.75	$ 6.64	$ 6.66	$ 6.69	$ 6.72	$ 6.85
Updated Expected	Rockies	2021-2022	$ 7.16	$ 7.20	$ 7.29	$ 7.33	$ 6.65	$ 6.54	$ 6.55	$ 6.44	$ 6.48	$ 6.51	$ 6.56	$ 6.69
Updated Expected	Rockies	2022-2023	$ 7.01	$ 7.06	$ 6.99	$ 7.03	$ 6.68	$ 6.55	$ 6.54	$ 6.42	$ 6.47	$ 6.47	$ 6.48	$ 6.56
Updated Expected	Rockies	2023-2024	$ 6.75	$ 6.79	$ 7.22	$ 7.24	$ 6.25	$ 6.15	$ 6.18	$ 6.07	$ 6.13	$ 6.16	$ 6.21	$ 6.36
Updated Expected	Rockies	2024-2025	$ 6.68	$ 6.73	$ 6.69	$ 6.73	$ 6.49	$ 6.37	$ 6.41	$ 6.29	$ 6.35	$ 6.37	$ 6.43	$ 6.56
Updated Expected	Rockies	2025-2026	$ 6.90	$ 6.95	$ 6.88	$ 6.92	$ 6.68	$ 6.55	$ 6.59	$ 6.44	$ 6.48	$ 6.51	$ 6.54	$ 6.68
Updated Expected	Rockies	2026-2027	$ 6.99	$ 7.04	$ 7.27	$ 7.31	$ 6.75	$ 6.60	$ 6.63	$ 6.52	$ 6.54	$ 6.57	$ 6.61	$ 6.75
Updated Expected	Rockies	2027-2028	$ 7.04	$ 7.08	$ 7.01	$ 7.04	$ 6.74	$ 6.62	$ 6.66	$ 6.54	$ 6.58	$ 6.59	$ 6.63	$ 6.79
Updated Expected	Rockies	2028-2029	$ 7.12	$ 7.16	$ 7.04	$ 7.08	$ 6.84	$ 6.71	$ 6.72	$ 6.62	$ 6.62	$ 6.62	$ 6.74	$ 6.88
Updated Expected	Rockies	2029-2030	$ 6.88	$ 6.88										

Appendix 6.1 - Monthly Price Data by Basin

2009$

Scenario	Index	Gas Year	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Updated Expected	Stanfield	2009-2010	$ 4.11	$ 4.63	$ 4.77	$ 4.77	$ 4.67	$ 4.47	$ 4.36	$ 4.50	$ 4.53	$ 4.58	$ 4.59	$ 4.75
Updated Expected	Stanfield	2010-2011	$ 4.99	$ 5.21	$ 5.37	$ 5.30	$ 5.13	$ 4.88	$ 4.89	$ 4.95	$ 4.98	$ 5.03	$ 4.99	$ 5.13
Updated Expected	Stanfield	2011-2012	$ 5.25	$ 5.39	$ 5.47	$ 5.47	$ 5.32	$ 5.06	$ 5.03	$ 5.08	$ 5.07	$ 5.11	$ 5.14	$ 5.28
Updated Expected	Stanfield	2012-2013	$ 5.40	$ 5.52	$ 5.58	$ 5.60	$ 5.40	$ 5.17	$ 5.14	$ 5.18	$ 5.17	$ 5.21	$ 5.25	$ 5.36
Updated Expected	Stanfield	2013-2014	$ 4.76	$ 4.83	$ 4.97	$ 5.01	$ 4.75	$ 4.64	$ 4.65	$ 4.66	$ 4.63	$ 4.66	$ 4.69	$ 4.81
Updated Expected	Stanfield	2014-2015	$ 5.68	$ 5.76	$ 6.69	$ 6.72	$ 6.45	$ 6.34	$ 6.35	$ 6.36	$ 6.35	$ 6.37	$ 6.41	$ 6.54
Updated Expected	Stanfield	2015-2016	$ 6.87	$ 6.94	$ 6.95	$ 6.97	$ 6.76	$ 6.64	$ 6.64	$ 6.66	$ 6.65	$ 6.68	$ 6.73	$ 6.84
Updated Expected	Stanfield	2016-2017	$ 7.17	$ 7.25	$ 7.27	$ 7.31	$ 6.79	$ 6.68	$ 6.68	$ 6.70	$ 6.68	$ 6.71	$ 6.75	$ 6.87
Updated Expected	Stanfield	2017-2018	$ 7.19	$ 7.27	$ 7.29	$ 7.33	$ 6.73	$ 6.60	$ 6.59	$ 6.61	$ 6.59	$ 6.63	$ 6.67	$ 6.80
Updated Expected	Stanfield	2018-2019	$ 7.12	$ 7.20	$ 7.15	$ 7.19	$ 6.90	$ 6.76	$ 6.76	$ 6.77	$ 6.76	$ 6.79	$ 6.84	$ 6.97
Updated Expected	Stanfield	2019-2020	$ 7.29	$ 7.37	$ 7.36	$ 7.39	$ 7.13	$ 6.98	$ 6.97	$ 6.99	$ 6.98	$ 7.00	$ 7.05	$ 7.16
Updated Expected	Stanfield	2020-2021	$ 7.48	$ 7.56	$ 7.58	$ 7.62	$ 7.44	$ 7.25	$ 7.26	$ 7.27	$ 7.26	$ 7.29	$ 7.33	$ 7.44
Updated Expected	Stanfield	2021-2022	$ 7.78	$ 7.86	$ 7.94	$ 7.97	$ 7.29	$ 7.12	$ 7.12	$ 7.14	$ 7.13	$ 7.16	$ 7.21	$ 7.31
Updated Expected	Stanfield	2022-2023	$ 7.67	$ 7.75	$ 7.68	$ 7.72	$ 7.35	$ 7.16	$ 7.13	$ 7.14	$ 7.13	$ 7.11	$ 7.08	$ 7.11
Updated Expected	Stanfield	2023-2024	$ 7.29	$ 7.35	$ 7.65	$ 7.62	$ 6.57	$ 6.47	$ 6.47	$ 6.51	$ 6.54	$ 6.57	$ 6.61	$ 6.72
Updated Expected	Stanfield	2024-2025	$ 7.02	$ 7.10	$ 7.05	$ 7.08	$ 6.81	$ 6.69	$ 6.71	$ 6.72	$ 6.75	$ 6.78	$ 6.83	$ 6.92
Updated Expected	Stanfield	2025-2026	$ 7.25	$ 7.33	$ 7.26	$ 7.30	$ 7.02	$ 6.91	$ 6.92	$ 6.93	$ 6.92	$ 6.95	$ 7.01	$ 7.11
Updated Expected	Stanfield	2026-2027	$ 7.41	$ 7.49	$ 7.72	$ 7.75	$ 7.12	$ 7.01	$ 7.03	$ 7.07	$ 7.05	$ 7.08	$ 7.12	$ 7.23
Updated Expected	Stanfield	2027-2028	$ 7.55	$ 7.63	$ 7.55	$ 7.58	$ 7.21	$ 7.11	$ 7.13	$ 7.17	$ 7.14	$ 7.18	$ 7.22	$ 7.34
Updated Expected	Stanfield	2028-2029	$ 7.67	$ 7.74	$ 7.64	$ 7.68	$ 7.37	$ 7.24	$ 7.26	$ 7.29	$ 7.21	$ 7.21	$ 7.33	$ 7.42
Updated Expected	Stanfield	2029-2030	$ 7.42	$ 7.42										
Updated Expected	Sumas	2009-2010	$ 4.22	$ 4.73	$ 4.88	$ 4.88	$ 4.77	$ 4.43	$ 4.22	$ 4.31	$ 4.34	$ 4.40	$ 4.42	$ 4.68
Updated Expected	Sumas	2010-2011	$ 5.10	$ 5.33	$ 5.49	$ 5.51	$ 5.22	$ 4.86	$ 4.74	$ 4.79	$ 4.81	$ 4.87	$ 4.85	$ 5.07
Updated Expected	Sumas	2011-2012	$ 5.34	$ 5.49	$ 5.58	$ 5.59	$ 5.40	$ 5.06	$ 4.92	$ 4.94	$ 4.94	$ 4.97	$ 5.03	$ 5.21
Updated Expected	Sumas	2012-2013	$ 5.51	$ 5.62	$ 5.69	$ 5.71	$ 5.47	$ 5.17	$ 5.04	$ 5.06	$ 5.06	$ 5.09	$ 5.15	$ 5.28
Updated Expected	Sumas	2013-2014	$ 4.85	$ 4.92	$ 5.08	$ 5.11	$ 4.81	$ 4.64	$ 4.57	$ 4.57	$ 4.54	$ 4.56	$ 4.61	$ 4.74
Updated Expected	Sumas	2014-2015	$ 5.77	$ 5.84	$ 6.79	$ 6.82	$ 6.52	$ 6.34	$ 6.29	$ 6.29	$ 6.27	$ 6.29	$ 6.35	$ 6.49
Updated Expected	Sumas	2015-2016	$ 6.94	$ 7.02	$ 7.04	$ 7.07	$ 6.82	$ 6.64	$ 6.59	$ 6.60	$ 6.58	$ 6.61	$ 6.67	$ 6.81
Updated Expected	Sumas	2016-2017	$ 7.26	$ 7.34	$ 7.37	$ 7.41	$ 6.84	$ 6.67	$ 6.63	$ 6.63	$ 6.60	$ 6.63	$ 6.69	$ 6.84
Updated Expected	Sumas	2017-2018	$ 7.27	$ 7.35	$ 7.38	$ 7.42	$ 6.79	$ 6.60	$ 6.52	$ 6.54	$ 6.52	$ 6.55	$ 6.61	$ 6.76
Updated Expected	Sumas	2018-2019	$ 7.21	$ 7.29	$ 7.27	$ 7.31	$ 6.96	$ 6.75	$ 6.71	$ 6.71	$ 6.69	$ 6.72	$ 6.78	$ 6.94
Updated Expected	Sumas	2019-2020	$ 7.38	$ 7.45	$ 7.48	$ 7.52	$ 7.19	$ 6.98	$ 6.92	$ 6.93	$ 6.91	$ 6.93	$ 7.00	$ 7.14
Updated Expected	Sumas	2020-2021	$ 7.57	$ 7.65	$ 7.70	$ 7.74	$ 7.51	$ 7.25	$ 7.22	$ 7.23	$ 7.21	$ 7.23	$ 7.30	$ 7.43
Updated Expected	Sumas	2021-2022	$ 7.88	$ 7.96	$ 8.08	$ 8.13	$ 7.36	$ 7.12	$ 7.08	$ 7.09	$ 7.07	$ 7.11	$ 7.17	$ 7.30
Updated Expected	Sumas	2022-2023	$ 7.76	$ 7.84	$ 7.80	$ 7.84	$ 7.41	$ 7.17	$ 7.11	$ 7.11	$ 7.09	$ 7.05	$ 7.01	$ 7.05
Updated Expected	Sumas	2023-2024	$ 7.39	$ 7.47	$ 7.80	$ 7.75	$ 6.61	$ 6.40	$ 6.34	$ 6.36	$ 6.37	$ 6.41	$ 6.46	$ 6.59
Updated Expected	Sumas	2024-2025	$ 7.15	$ 7.23	$ 7.19	$ 7.23	$ 6.85	$ 6.63	$ 6.58	$ 6.59	$ 6.56	$ 6.61	$ 6.67	$ 6.80
Updated Expected	Sumas	2025-2026	$ 7.40	$ 7.48	$ 7.41	$ 7.45	$ 7.06	$ 6.85	$ 6.79	$ 6.79	$ 6.77	$ 6.80	$ 6.86	$ 6.99
Updated Expected	Sumas	2026-2027	$ 7.54	$ 7.62	$ 7.86	$ 7.91	$ 7.11	$ 6.95	$ 6.90	$ 6.85	$ 6.82	$ 6.85	$ 6.98	$ 7.11
Updated Expected	Sumas	2027-2028	$ 7.68	$ 7.75	$ 7.70	$ 7.73	$ 7.20	$ 7.07	$ 7.00	$ 6.95	$ 6.93	$ 6.96	$ 7.10	$ 7.23
Updated Expected	Sumas	2028-2029	$ 7.81	$ 7.88	$ 7.80	$ 7.84	$ 7.41	$ 7.20	$ 7.14	$ 7.09	$ 7.00	$ 7.01	$ 7.21	$ 7.32
Updated Expected	Sumas	2029-2030	$ 7.32	$ 7.32										

Appendix 6.1 - Monthly Price Data by Basin

2009$

Scenario	Index	Gas Year	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
High Growth Low Price	AECo	2009-2010	$ 5.44	$ 5.80	$ 5.49	$ 5.53	$ 5.44	$ 4.79	$ 4.84	$ 4.92	$ 4.99	$ 5.07	$ 5.08	$ 5.13
High Growth Low Price	AECo	2010-2011	$ 5.83	$ 6.00	$ 5.94	$ 5.95	$ 5.82	$ 5.08	$ 5.09	$ 5.15	$ 5.21	$ 5.26	$ 5.29	$ 5.35
High Growth Low Price	AECo	2011-2012	$ 5.76	$ 5.89	$ 5.76	$ 5.78	$ 5.63	$ 4.92	$ 4.91	$ 4.98	$ 5.04	$ 5.09	$ 5.13	$ 5.17
High Growth Low Price	AECo	2012-2013	$ 5.68	$ 5.80	$ 6.16	$ 6.15	$ 5.99	$ 5.26	$ 5.28	$ 5.35	$ 5.37	$ 5.41	$ 5.43	$ 5.53
High Growth Low Price	AECo	2013-2014	$ 5.30	$ 5.32	$ 5.09	$ 5.12	$ 4.98	$ 4.39	$ 4.38	$ 4.44	$ 4.47	$ 4.49	$ 4.50	$ 4.53
High Growth Low Price	AECo	2014-2015	$ 5.70	$ 5.77	$ 6.82	$ 6.86	$ 6.77	$ 6.13	$ 6.14	$ 6.18	$ 6.25	$ 6.25	$ 6.26	$ 6.30
High Growth Low Price	AECo	2015-2016	$ 6.92	$ 7.07	$ 7.17	$ 7.22	$ 7.12	$ 6.44	$ 6.44	$ 6.42	$ 6.53	$ 6.51	$ 6.56	$ 6.63
High Growth Low Price	AECo	2016-2017	$ 7.26	$ 7.32	$ 7.26	$ 7.29	$ 7.06	$ 6.39	$ 6.43	$ 6.41	$ 6.42	$ 6.42	$ 6.44	$ 6.50
High Growth Low Price	AECo	2017-2018	$ 7.13	$ 7.16	$ 7.73	$ 7.76	$ 7.60	$ 7.01	$ 7.04	$ 7.05	$ 7.09	$ 7.09	$ 7.08	$ 7.11
High Growth Low Price	AECo	2018-2019	$ 7.76	$ 7.78	$ 7.69	$ 7.68	$ 7.53	$ 6.95	$ 6.96	$ 6.98	$ 6.99	$ 6.97	$ 6.99	$ 7.08
High Growth Low Price	AECo	2019-2020	$ 7.69	$ 7.73	$ 7.60	$ 7.63	$ 7.55	$ 6.87	$ 6.89	$ 6.92	$ 6.98	$ 6.96	$ 7.03	$ 7.12
High Growth Low Price	AECo	2020-2021	$ 7.74	$ 7.74	$ 7.80	$ 7.82	$ 7.54	$ 6.98	$ 6.98	$ 7.00	$ 7.03	$ 6.97	$ 6.98	$ 7.00
High Growth Low Price	AECo	2021-2022	$ 7.61	$ 7.65	$ 7.65	$ 7.67	$ 7.49	$ 6.94	$ 6.97	$ 7.00	$ 7.03	$ 7.04	$ 7.08	$ 7.12
High Growth Low Price	AECo	2022-2023	$ 7.73	$ 7.72	$ 7.75	$ 7.78	$ 7.64	$ 7.04	$ 7.08	$ 7.12	$ 7.16	$ 7.15	$ 7.20	$ 7.26
High Growth Low Price	AECo	2023-2024	$ 7.88	$ 7.90	$ 8.02	$ 8.00	$ 7.84	$ 7.24	$ 7.27	$ 7.32	$ 7.34	$ 7.35	$ 7.41	$ 7.47
High Growth Low Price	AECo	2024-2025	$ 8.07	$ 8.12	$ 8.20	$ 8.19	$ 7.98	$ 7.41	$ 7.44	$ 7.48	$ 7.51	$ 7.52	$ 7.56	$ 7.62
High Growth Low Price	AECo	2025-2026	$ 8.28	$ 8.23	$ 8.36	$ 8.35	$ 8.19	$ 7.59	$ 7.62	$ 7.66	$ 7.68	$ 7.68	$ 7.73	$ 7.79
High Growth Low Price	AECo	2026-2027	$ 8.36	$ 8.37	$ 8.52	$ 8.57	$ 8.41	$ 7.82	$ 7.84	$ 7.87	$ 7.86	$ 7.92	$ 7.92	$ 7.97
High Growth Low Price	AECo	2027-2028	$ 8.55	$ 8.56	$ 8.71	$ 8.76	$ 8.60	$ 8.01	$ 8.02	$ 8.06	$ 8.07	$ 8.11	$ 8.11	$ 8.16
High Growth Low Price	AECo	2028-2029	$ 8.74	$ 8.75	$ 8.91	$ 8.95	$ 8.79	$ 8.20	$ 8.22	$ 8.25	$ 8.26	$ 8.30	$ 8.31	$ 8.35
High Growth Low Price	AECo	2029-2030	$ 7.25	$ 7.61										
High Growth Low Price	Malin	2009-2010	$ 5.57	$ 5.93	$ 5.59	$ 5.64	$ 5.54	$ 4.86	$ 4.90	$ 4.98	$ 5.06	$ 5.16	$ 5.15	$ 5.21
High Growth Low Price	Malin	2010-2011	$ 5.96	$ 6.14	$ 6.05	$ 6.06	$ 5.93	$ 5.14	$ 5.14	$ 5.20	$ 5.27	$ 5.33	$ 5.36	$ 5.42
High Growth Low Price	Malin	2011-2012	$ 5.86	$ 5.99	$ 5.86	$ 5.88	$ 5.62	$ 4.97	$ 4.94	$ 5.01	$ 5.08	$ 5.14	$ 5.18	$ 5.23
High Growth Low Price	Malin	2012-2013	$ 5.80	$ 5.91	$ 6.18	$ 6.17	$ 5.89	$ 5.29	$ 5.30	$ 5.37	$ 5.40	$ 5.45	$ 5.47	$ 5.58
High Growth Low Price	Malin	2013-2014	$ 5.43	$ 5.45	$ 4.99	$ 5.02	$ 4.81	$ 4.38	$ 4.34	$ 4.46	$ 4.49	$ 4.52	$ 4.53	$ 4.58
High Growth Low Price	Malin	2014-2015	$ 5.85	$ 5.91	$ 6.70	$ 6.73	$ 6.50	$ 6.04	$ 6.06	$ 6.21	$ 6.29	$ 6.29	$ 6.31	$ 6.37
High Growth Low Price	Malin	2015-2016	$ 7.06	$ 7.15	$ 6.99	$ 7.42	$ 6.71	$ 6.27	$ 6.27	$ 6.45	$ 6.57	$ 6.56	$ 6.62	$ 6.72
High Growth Low Price	Malin	2016-2017	$ 7.41	$ 7.53	$ 6.93	$ 6.99	$ 6.73	$ 6.23	$ 6.31	$ 6.28	$ 6.41	$ 6.42	$ 6.46	$ 6.54
High Growth Low Price	Malin	2017-2018	$ 7.17	$ 7.17	$ 7.51	$ 7.55	$ 7.29	$ 6.90	$ 6.94	$ 6.94	$ 7.08	$ 7.09	$ 7.08	$ 7.13
High Growth Low Price	Malin	2018-2019	$ 7.83	$ 7.83	$ 7.88	$ 7.58	$ 7.41	$ 6.92	$ 6.93	$ 6.95	$ 6.96	$ 6.94	$ 6.97	$ 7.10
High Growth Low Price	Malin	2019-2020	$ 7.89	$ 7.92	$ 7.49	$ 7.52	$ 7.52	$ 6.80	$ 6.81	$ 6.86	$ 6.95	$ 6.92	$ 7.02	$ 7.15
High Growth Low Price	Malin	2020-2021	$ 7.95	$ 7.94	$ 8.01	$ 8.03	$ 7.71	$ 6.92	$ 6.89	$ 6.91	$ 6.94	$ 6.85	$ 6.91	$ 6.92
High Growth Low Price	Malin	2021-2022	$ 7.74	$ 7.82	$ 7.73	$ 7.76	$ 7.59	$ 6.79	$ 6.79	$ 6.81	$ 6.85	$ 6.87	$ 6.95	$ 7.02
High Growth Low Price	Malin	2022-2023	$ 7.88	$ 7.92	$ 7.82	$ 7.84	$ 7.73	$ 6.84	$ 6.87	$ 6.90	$ 6.96	$ 6.96	$ 7.10	$ 7.17
High Growth Low Price	Malin	2023-2024	$ 8.06	$ 8.14	$ 8.13	$ 8.10	$ 7.94	$ 7.04	$ 7.06	$ 7.12	$ 7.15	$ 7.16	$ 7.28	$ 7.42
High Growth Low Price	Malin	2024-2025	$ 8.35	$ 8.40	$ 8.33	$ 8.30	$ 8.07	$ 7.19	$ 7.21	$ 7.26	$ 7.28	$ 7.32	$ 7.44	$ 7.56
High Growth Low Price	Malin	2025-2026	$ 8.60	$ 8.49	$ 8.51	$ 8.48	$ 8.32	$ 7.35	$ 7.37	$ 7.42	$ 7.44	$ 7.45	$ 7.58	$ 7.73
High Growth Low Price	Malin	2026-2027	$ 8.65	$ 8.63	$ 8.67	$ 8.70	$ 8.58	$ 7.61	$ 7.63	$ 7.66	$ 7.67	$ 7.72	$ 7.81	$ 7.93
High Growth Low Price	Malin	2027-2028	$ 8.84	$ 8.82	$ 8.86	$ 8.89	$ 8.77	$ 7.80	$ 7.82	$ 7.85	$ 7.85	$ 7.91	$ 7.99	$ 8.12
High Growth Low Price	Malin	2028-2029	$ 9.03	$ 9.01	$ 9.06	$ 9.09	$ 8.97	$ 8.00	$ 8.01	$ 8.04	$ 8.05	$ 8.11	$ 8.19	$ 8.32
High Growth Low Price	Malin	2029-2030	$ 8.32	$ 8.32										
High Growth Low Price	Rockies	2009-2010	$ 4.21	$ 4.62	$ 4.32	$ 4.39	$ 4.19	$ 2.46	$ 2.51	$ 2.59	$ 2.68	$ 2.75	$ 2.75	$ 2.83
High Growth Low Price	Rockies	2010-2011	$ 4.80	$ 4.98	$ 4.91	$ 4.92	$ 4.67	$ 2.88	$ 2.89	$ 2.91	$ 2.96	$ 3.00	$ 3.03	$ 3.08
High Growth Low Price	Rockies	2011-2012	$ 5.77	$ 5.90	$ 5.77	$ 5.80	$ 5.55	$ 4.92	$ 4.91	$ 4.94	$ 5.00	$ 5.03	$ 5.03	$ 5.07
High Growth Low Price	Rockies	2012-2013	$ 5.57	$ 5.67	$ 6.03	$ 6.01	$ 5.72	$ 5.15	$ 5.15	$ 5.20	$ 5.22	$ 5.26	$ 5.27	$ 5.34
High Growth Low Price	Rockies	2013-2014	$ 5.04	$ 5.05	$ 4.81	$ 4.84	$ 4.57	$ 4.17	$ 4.15	$ 4.17	$ 4.16	$ 4.18	$ 4.18	$ 4.21
High Growth Low Price	Rockies	2014-2015	$ 5.45	$ 5.51	$ 6.55	$ 6.59	$ 6.31	$ 5.87	$ 5.91	$ 5.93	$ 5.97	$ 5.98	$ 5.97	$ 5.99
High Growth Low Price	Rockies	2015-2016	$ 6.60	$ 6.73	$ 6.81	$ 6.84	$ 6.55	$ 6.10	$ 6.15	$ 6.14	$ 6.18	$ 6.16	$ 6.18	$ 6.24
High Growth Low Price	Rockies	2016-2017	$ 6.79	$ 6.85	$ 6.79	$ 6.83	$ 6.56	$ 6.10	$ 6.17	$ 6.15	$ 6.16	$ 6.18	$ 6.19	$ 6.23
High Growth Low Price	Rockies	2017-2018	$ 6.79	$ 6.81	$ 7.38	$ 7.41	$ 7.17	$ 6.74	$ 6.79	$ 6.80	$ 6.83	$ 6.84	$ 6.82	$ 6.84
High Growth Low Price	Rockies	2018-2019	$ 7.41	$ 7.43	$ 7.34	$ 7.35	$ 7.15	$ 6.68	$ 6.68	$ 6.70	$ 6.69	$ 6.66	$ 6.70	$ 6.78
High Growth Low Price	Rockies	2019-2020	$ 7.30	$ 7.35	$ 7.24	$ 7.28	$ 7.18	$ 6.65	$ 6.69	$ 6.72	$ 6.75	$ 6.77	$ 6.82	$ 6.87
High Growth Low Price	Rockies	2020-2021	$ 7.43	$ 7.44	$ 7.51	$ 7.55	$ 7.34	$ 6.79	$ 6.83	$ 6.85	$ 6.87	$ 6.88	$ 6.90	$ 6.95
High Growth Low Price	Rockies	2021-2022	$ 7.49	$ 7.59	$ 7.65	$ 7.69	$ 7.45	$ 6.91	$ 6.95	$ 6.98	$ 7.02	$ 7.04	$ 7.07	$ 7.12
High Growth Low Price	Rockies	2022-2023	$ 7.74	$ 7.77	$ 7.84	$ 7.86	$ 7.72	$ 7.09	$ 7.12	$ 7.16	$ 7.20	$ 7.23	$ 7.28	$ 7.33
High Growth Low Price	Rockies	2023-2024	$ 7.98	$ 8.01	$ 8.11	$ 8.10	$ 7.92	$ 7.32	$ 7.35	$ 7.39	$ 7.42	$ 7.44	$ 7.48	$ 7.56
High Growth Low Price	Rockies	2024-2025	$ 8.16	$ 8.22	$ 8.30	$ 8.29	$ 8.06	$ 7.48	$ 7.52	$ 7.55	$ 7.59	$ 7.62	$ 7.66	$ 7.73
High Growth Low Price	Rockies	2025-2026	$ 8.38	$ 8.34	$ 8.47	$ 8.45	$ 8.26	$ 7.67	$ 7.70	$ 7.73	$ 7.76	$ 7.76	$ 7.79	$ 7.83
High Growth Low Price	Rockies	2026-2027	$ 8.47	$ 8.52	$ 8.63	$ 8.66	$ 8.47	$ 7.92	$ 7.95	$ 7.98	$ 7.99	$ 8.03	$ 8.06	$ 8.12
High Growth Low Price	Rockies	2027-2028	$ 8.66	$ 8.71	$ 8.82	$ 8.85	$ 8.66	$ 8.11	$ 8.14	$ 8.17	$ 8.18	$ 8.22	$ 8.25	$ 8.31
High Growth Low Price	Rockies	2028-2029	$ 8.85	$ 8.90	$ 9.02	$ 9.05	$ 8.86	$ 8.30	$ 8.34	$ 8.37	$ 8.38	$ 8.41	$ 8.44	$ 8.50
High Growth Low Price	Rockies	2029-2030	$ 6.78	$ 7.13										

Appendix 6.1 - Monthly Price Data by Basin

2009$

Scenario	Index	Gas Year	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
High Growth Low Price	Stanfield	2009-2010	$ 5.51	$ 5.88	$ 5.54	$ 5.58	$ 5.49	$ 4.82	$ 4.86	$ 4.94	$ 5.02	$ 5.09	$ 5.10	$ 5.17
High Growth Low Price	Stanfield	2010-2011	$ 5.90	$ 6.08	$ 5.99	$ 6.00	$ 5.87	$ 5.09	$ 5.10	$ 5.16	$ 5.22	$ 5.27	$ 5.31	$ 5.37
High Growth Low Price	Stanfield	2011-2012	$ 5.80	$ 5.93	$ 5.80	$ 5.82	$ 5.68	$ 4.92	$ 4.90	$ 4.97	$ 5.03	$ 5.08	$ 5.13	$ 5.17
High Growth Low Price	Stanfield	2012-2013	$ 5.74	$ 5.85	$ 6.22	$ 6.20	$ 6.05	$ 5.25	$ 5.25	$ 5.33	$ 5.35	$ 5.39	$ 5.42	$ 5.53
High Growth Low Price	Stanfield	2013-2014	$ 5.37	$ 5.38	$ 5.15	$ 5.18	$ 5.05	$ 4.37	$ 4.30	$ 4.41	$ 4.44	$ 4.46	$ 4.48	$ 4.52
High Growth Low Price	Stanfield	2014-2015	$ 5.77	$ 5.84	$ 6.89	$ 6.93	$ 6.87	$ 6.11	$ 6.11	$ 6.15	$ 6.23	$ 6.23	$ 6.25	$ 6.30
High Growth Low Price	Stanfield	2015-2016	$ 7.01	$ 7.17	$ 7.27	$ 7.33	$ 7.25	$ 6.44	$ 6.42	$ 6.39	$ 6.51	$ 6.49	$ 6.55	$ 6.65
High Growth Low Price	Stanfield	2016-2017	$ 7.38	$ 7.44	$ 7.39	$ 7.42	$ 7.19	$ 6.35	$ 6.37	$ 6.33	$ 6.34	$ 6.35	$ 6.39	$ 6.46
High Growth Low Price	Stanfield	2017-2018	$ 7.23	$ 7.24	$ 7.82	$ 7.85	$ 7.71	$ 6.95	$ 6.96	$ 6.96	$ 7.01	$ 7.01	$ 7.00	$ 7.05
High Growth Low Price	Stanfield	2018-2019	$ 7.85	$ 7.87	$ 7.78	$ 7.77	$ 7.64	$ 6.88	$ 6.86	$ 6.88	$ 6.88	$ 6.85	$ 6.89	$ 7.01
High Growth Low Price	Stanfield	2019-2020	$ 7.78	$ 7.81	$ 7.69	$ 7.72	$ 7.67	$ 6.76	$ 6.76	$ 6.79	$ 6.87	$ 6.83	$ 6.93	$ 7.06
High Growth Low Price	Stanfield	2020-2021	$ 7.85	$ 7.84	$ 7.90	$ 7.92	$ 7.61	$ 6.84	$ 6.82	$ 6.83	$ 6.86	$ 6.76	$ 6.83	$ 6.83
High Growth Low Price	Stanfield	2021-2022	$ 7.64	$ 7.72	$ 7.63	$ 7.65	$ 7.49	$ 6.70	$ 6.71	$ 6.74	$ 6.77	$ 6.78	$ 6.86	$ 6.93
High Growth Low Price	Stanfield	2022-2023	$ 7.77	$ 7.79	$ 7.71	$ 7.73	$ 7.62	$ 6.76	$ 6.79	$ 6.82	$ 6.88	$ 6.87	$ 7.00	$ 7.07
High Growth Low Price	Stanfield	2023-2024	$ 7.95	$ 7.99	$ 8.02	$ 7.99	$ 7.83	$ 6.95	$ 6.98	$ 7.04	$ 7.06	$ 7.07	$ 7.19	$ 7.30
High Growth Low Price	Stanfield	2024-2025	$ 8.20	$ 8.25	$ 8.21	$ 8.19	$ 7.96	$ 7.09	$ 7.13	$ 7.18	$ 7.19	$ 7.23	$ 7.33	$ 7.43
High Growth Low Price	Stanfield	2025-2026	$ 8.44	$ 8.33	$ 8.39	$ 8.36	$ 8.20	$ 7.26	$ 7.29	$ 7.33	$ 7.34	$ 7.35	$ 7.47	$ 7.59
High Growth Low Price	Stanfield	2026-2027	$ 8.48	$ 8.46	$ 8.54	$ 8.58	$ 8.46	$ 7.51	$ 7.52	$ 7.55	$ 7.55	$ 7.60	$ 7.66	$ 7.76
High Growth Low Price	Stanfield	2027-2028	$ 8.67	$ 8.65	$ 8.73	$ 8.77	$ 8.65	$ 7.70	$ 7.70	$ 7.74	$ 7.74	$ 7.79	$ 7.85	$ 7.95
High Growth Low Price	Stanfield	2028-2029	$ 8.86	$ 8.84	$ 8.93	$ 8.97	$ 8.85	$ 7.90	$ 7.90	$ 7.94	$ 7.93	$ 7.98	$ 8.05	$ 8.15
High Growth Low Price	Stanfield	2029-2030	$ 8.15	$ 8.15										
High Growth Low Price	Sumas	2009-2010	$ 5.65	$ 6.01	$ 5.70	$ 5.75	$ 5.54	$ 4.88	$ 4.84	$ 4.89	$ 4.98	$ 5.06	$ 5.11	$ 5.22
High Growth Low Price	Sumas	2010-2011	$ 6.05	$ 6.23	$ 6.17	$ 6.18	$ 5.92	$ 5.13	$ 5.10	$ 5.14	$ 5.21	$ 5.26	$ 5.33	$ 5.44
High Growth Low Price	Sumas	2011-2012	$ 5.95	$ 6.08	$ 5.96	$ 5.98	$ 5.74	$ 5.01	$ 4.92	$ 4.96	$ 5.04	$ 5.09	$ 5.17	$ 5.26
High Growth Low Price	Sumas	2012-2013	$ 5.89	$ 6.00	$ 6.37	$ 6.36	$ 6.10	$ 5.33	$ 5.28	$ 5.33	$ 5.37	$ 5.42	$ 5.47	$ 5.60
High Growth Low Price	Sumas	2013-2014	$ 5.51	$ 5.53	$ 5.30	$ 5.33	$ 5.09	$ 4.46	$ 4.40	$ 4.43	$ 4.47	$ 4.50	$ 4.54	$ 4.61
High Growth Low Price	Sumas	2014-2015	$ 5.92	$ 5.98	$ 7.03	$ 7.06	$ 6.90	$ 6.21	$ 6.17	$ 6.19	$ 6.27	$ 6.28	$ 6.32	$ 6.40
High Growth Low Price	Sumas	2015-2016	$ 7.15	$ 7.29	$ 7.37	$ 7.41	$ 7.25	$ 6.54	$ 6.49	$ 6.46	$ 6.58	$ 6.57	$ 6.62	$ 6.75
High Growth Low Price	Sumas	2016-2017	$ 7.51	$ 7.57	$ 7.52	$ 7.55	$ 7.21	$ 6.51	$ 6.47	$ 6.45	$ 6.46	$ 6.48	$ 6.51	$ 6.62
High Growth Low Price	Sumas	2017-2018	$ 7.39	$ 7.41	$ 7.99	$ 8.02	$ 7.76	$ 7.13	$ 7.10	$ 7.10	$ 7.15	$ 7.16	$ 7.15	$ 7.24
High Growth Low Price	Sumas	2018-2019	$ 8.06	$ 8.05	$ 7.95	$ 7.95	$ 7.71	$ 7.08	$ 7.03	$ 7.04	$ 7.05	$ 7.04	$ 7.09	$ 7.22
High Growth Low Price	Sumas	2019-2020	$ 7.97	$ 8.00	$ 7.88	$ 7.91	$ 7.72	$ 7.00	$ 6.95	$ 6.97	$ 7.05	$ 7.03	$ 7.14	$ 7.26
High Growth Low Price	Sumas	2020-2021	$ 8.00	$ 8.01	$ 8.07	$ 8.10	$ 7.80	$ 7.10	$ 7.04	$ 7.06	$ 7.09	$ 7.03	$ 7.08	$ 7.21
High Growth Low Price	Sumas	2021-2022	$ 7.97	$ 8.02	$ 8.09	$ 8.12	$ 7.78	$ 7.07	$ 7.04	$ 7.07	$ 7.10	$ 7.11	$ 7.17	$ 7.36
High Growth Low Price	Sumas	2022-2023	$ 8.10	$ 8.10	$ 8.17	$ 8.20	$ 8.01	$ 7.32	$ 7.20	$ 7.22	$ 7.26	$ 7.24	$ 7.39	$ 7.56
High Growth Low Price	Sumas	2023-2024	$ 8.27	$ 8.29	$ 8.41	$ 8.40	$ 8.21	$ 7.51	$ 7.43	$ 7.46	$ 7.48	$ 7.50	$ 7.57	$ 7.77
High Growth Low Price	Sumas	2024-2025	$ 8.53	$ 8.58	$ 8.67	$ 8.66	$ 8.35	$ 7.68	$ 7.59	$ 7.62	$ 7.65	$ 7.68	$ 7.75	$ 7.92
High Growth Low Price	Sumas	2025-2026	$ 8.77	$ 8.71	$ 8.84	$ 8.83	$ 8.56	$ 7.88	$ 7.76	$ 7.80	$ 7.82	$ 7.83	$ 7.92	$ 8.09
High Growth Low Price	Sumas	2026-2027	$ 8.86	$ 8.86	$ 8.97	$ 9.00	$ 8.79	$ 8.11	$ 8.03	$ 8.05	$ 8.05	$ 8.10	$ 8.14	$ 8.29
High Growth Low Price	Sumas	2027-2028	$ 9.05	$ 9.05	$ 9.16	$ 9.19	$ 8.98	$ 8.30	$ 8.22	$ 8.23	$ 8.24	$ 8.29	$ 8.33	$ 8.48
High Growth Low Price	Sumas	2028-2029	$ 9.23	$ 9.24	$ 9.36	$ 9.39	$ 9.17	$ 8.50	$ 8.42	$ 8.43	$ 8.44	$ 8.48	$ 8.53	$ 8.68
High Growth Low Price	Sumas	2029-2030	$ 7.38	$ 7.76										

Appendix 6.1 - Monthly Price Data by Basin

2009$

Scenario	Index	Gas Year	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Low Growth High Price	AECo	2009-2010	$ 6.92	$ 7.30	$ 7.66	$ 7.71	$ 7.51	$ 6.87	$ 6.94	$ 7.03	$ 7.14	$ 7.22	$ 7.21	$ 7.26
Low Growth High Price	AECo	2010-2011	$ 8.45	$ 8.66	$ 8.71	$ 8.74	$ 8.47	$ 7.73	$ 7.78	$ 7.86	$ 7.95	$ 8.02	$ 8.02	$ 8.07
Low Growth High Price	AECo	2011-2012	$ 9.02	$ 9.19	$ 10.19	$ 10.24	$ 9.91	$ 9.21	$ 9.24	$ 9.33	$ 9.44	$ 9.51	$ 9.50	$ 9.53
Low Growth High Price	AECo	2012-2013	$ 10.64	$ 10.80	$ 11.31	$ 11.32	$ 10.95	$ 10.23	$ 10.29	$ 10.39	$ 10.47	$ 10.53	$ 10.50	$ 10.59
Low Growth High Price	AECo	2013-2014	$ 11.00	$ 11.07	$ 10.99	$ 11.06	$ 10.67	$ 10.08	$ 10.13	$ 10.22	$ 10.31	$ 10.37	$ 10.31	$ 10.34
Low Growth High Price	AECo	2014-2015	$ 12.19	$ 12.32	$ 13.54	$ 13.61	$ 13.24	$ 12.80	$ 12.68	$ 12.76	$ 12.90	$ 12.94	$ 12.88	$ 12.91
Low Growth High Price	AECo	2015-2016	$ 13.68	$ 13.90	$ 14.17	$ 14.27	$ 13.86	$ 13.19	$ 13.26	$ 13.29	$ 13.46	$ 13.49	$ 13.46	$ 13.52
Low Growth High Price	AECo	2016-2017	$ 14.31	$ 14.45	$ 14.55	$ 14.62	$ 14.08	$ 13.41	$ 13.52	$ 13.55	$ 13.63	$ 13.67	$ 13.62	$ 13.66
Low Growth High Price	AECo	2017-2018	$ 14.47	$ 14.57	$ 15.29	$ 15.36	$ 14.87	$ 14.28	$ 14.39	$ 14.45	$ 14.57	$ 14.62	$ 14.52	$ 14.53
Low Growth High Price	AECo	2018-2019	$ 15.37	$ 15.47	$ 15.51	$ 15.56	$ 15.06	$ 14.49	$ 14.57	$ 14.64	$ 14.73	$ 14.76	$ 14.70	$ 14.77
Low Growth High Price	AECo	2019-2020	$ 15.57	$ 15.69	$ 15.71	$ 15.79	$ 15.35	$ 14.67	$ 14.77	$ 14.86	$ 15.01	$ 15.03	$ 15.02	$ 15.09
Low Growth High Price	AECo	2020-2021	$ 15.90	$ 15.99	$ 16.00	$ 16.07	$ 15.42	$ 14.87	$ 14.95	$ 15.03	$ 15.15	$ 15.13	$ 15.06	$ 15.06
Low Growth High Price	AECo	2021-2022	$ 15.87	$ 16.00	$ 15.94	$ 16.02	$ 15.47	$ 14.92	$ 15.03	$ 15.12	$ 15.24	$ 15.30	$ 15.24	$ 15.26
Low Growth High Price	AECo	2022-2023	$ 16.07	$ 16.16	$ 16.15	$ 16.22	$ 15.71	$ 15.12	$ 15.24	$ 15.34	$ 15.47	$ 15.51	$ 15.47	$ 15.50
Low Growth High Price	AECo	2023-2024	$ 16.33	$ 16.44	$ 16.51	$ 16.55	$ 16.01	$ 15.42	$ 15.53	$ 15.64	$ 15.75	$ 15.81	$ 15.78	$ 15.82
Low Growth High Price	AECo	2024-2025	$ 16.63	$ 16.77	$ 16.81	$ 16.85	$ 16.26	$ 15.69	$ 15.80	$ 15.91	$ 16.03	$ 16.09	$ 16.04	$ 16.08
Low Growth High Price	AECo	2025-2026	$ 16.95	$ 16.99	$ 17.41	$ 17.45	$ 16.88	$ 16.29	$ 16.40	$ 16.51	$ 16.63	$ 16.68	$ 16.63	$ 16.67
Low Growth High Price	AECo	2026-2027	$ 17.47	$ 17.57	$ 18.00	$ 18.10	$ 17.51	$ 16.93	$ 17.04	$ 17.14	$ 17.25	$ 17.35	$ 17.25	$ 17.28
Low Growth High Price	AECo	2027-2028	$ 18.09	$ 18.20	$ 18.65	$ 18.76	$ 18.15	$ 17.56	$ 17.68	$ 17.78	$ 17.90	$ 18.00	$ 17.90	$ 17.92
Low Growth High Price	AECo	2028-2029	$ 18.75	$ 18.87	$ 19.34	$ 19.44	$ 18.81	$ 18.22	$ 18.35	$ 18.46	$ 18.58	$ 18.68	$ 18.57	$ 18.59
Low Growth High Price	AECo	2029-2030	$ 18.59	$ 18.59										
Low Growth High Price	Malin	2009-2010	$ 7.04	$ 7.42	$ 7.76	$ 7.82	$ 7.61	$ 6.94	$ 7.00	$ 7.10	$ 7.20	$ 7.31	$ 7.28	$ 7.34
Low Growth High Price	Malin	2010-2011	$ 8.58	$ 8.79	$ 8.83	$ 8.86	$ 8.58	$ 7.79	$ 7.83	$ 7.91	$ 8.01	$ 8.09	$ 8.09	$ 8.14
Low Growth High Price	Malin	2011-2012	$ 9.13	$ 9.29	$ 10.29	$ 10.34	$ 9.90	$ 9.25	$ 9.27	$ 9.37	$ 9.48	$ 9.55	$ 9.55	$ 9.59
Low Growth High Price	Malin	2012-2013	$ 10.76	$ 10.92	$ 11.32	$ 11.34	$ 10.85	$ 10.25	$ 10.31	$ 10.41	$ 10.49	$ 10.57	$ 10.54	$ 10.64
Low Growth High Price	Malin	2013-2014	$ 11.13	$ 11.20	$ 10.89	$ 10.96	$ 10.50	$ 10.07	$ 10.09	$ 10.24	$ 10.33	$ 10.39	$ 10.35	$ 10.39
Low Growth High Price	Malin	2014-2015	$ 12.33	$ 12.46	$ 13.41	$ 13.49	$ 12.97	$ 12.52	$ 12.59	$ 12.79	$ 12.94	$ 12.98	$ 12.93	$ 12.97
Low Growth High Price	Malin	2015-2016	$ 13.83	$ 13.98	$ 14.00	$ 14.47	$ 13.46	$ 13.02	$ 13.08	$ 13.31	$ 13.51	$ 13.53	$ 13.52	$ 13.61
Low Growth High Price	Malin	2016-2017	$ 14.47	$ 14.66	$ 14.22	$ 14.32	$ 13.74	$ 13.25	$ 13.40	$ 13.41	$ 13.62	$ 13.68	$ 13.64	$ 13.70
Low Growth High Price	Malin	2017-2018	$ 14.50	$ 14.58	$ 15.07	$ 15.15	$ 14.56	$ 14.18	$ 14.29	$ 14.34	$ 14.56	$ 14.61	$ 14.52	$ 14.56
Low Growth High Price	Malin	2018-2019	$ 15.44	$ 15.51	$ 15.71	$ 15.45	$ 14.94	$ 14.46	$ 14.55	$ 14.62	$ 14.70	$ 14.73	$ 14.68	$ 14.79
Low Growth High Price	Malin	2019-2020	$ 15.77	$ 15.88	$ 15.60	$ 15.67	$ 15.31	$ 14.60	$ 14.70	$ 14.80	$ 14.97	$ 14.99	$ 15.00	$ 15.12
Low Growth High Price	Malin	2020-2021	$ 16.12	$ 16.20	$ 16.21	$ 16.28	$ 15.60	$ 14.82	$ 14.86	$ 14.94	$ 15.05	$ 15.01	$ 14.99	$ 14.98
Low Growth High Price	Malin	2021-2022	$ 16.00	$ 16.17	$ 16.03	$ 16.10	$ 15.56	$ 14.77	$ 14.85	$ 14.93	$ 15.06	$ 15.12	$ 15.11	$ 15.17
Low Growth High Price	Malin	2022-2023	$ 16.23	$ 16.36	$ 16.21	$ 16.29	$ 15.80	$ 14.92	$ 15.03	$ 15.12	$ 15.27	$ 15.31	$ 15.37	$ 15.41
Low Growth High Price	Malin	2023-2024	$ 16.52	$ 16.68	$ 16.63	$ 16.65	$ 16.11	$ 15.22	$ 15.32	$ 15.44	$ 15.55	$ 15.62	$ 15.65	$ 15.77
Low Growth High Price	Malin	2024-2025	$ 16.90	$ 17.04	$ 16.94	$ 16.97	$ 16.35	$ 15.47	$ 15.58	$ 15.69	$ 15.80	$ 15.89	$ 15.92	$ 16.02
Low Growth High Price	Malin	2025-2026	$ 17.27	$ 17.25	$ 17.55	$ 17.57	$ 17.01	$ 16.05	$ 16.16	$ 16.27	$ 16.38	$ 16.45	$ 16.48	$ 16.61
Low Growth High Price	Malin	2026-2027	$ 17.75	$ 17.83	$ 18.15	$ 18.24	$ 17.69	$ 16.72	$ 16.83	$ 16.93	$ 17.04	$ 17.15	$ 17.13	$ 17.24
Low Growth High Price	Malin	2027-2028	$ 18.38	$ 18.46	$ 18.80	$ 18.89	$ 18.32	$ 17.36	$ 17.47	$ 17.57	$ 17.69	$ 17.80	$ 17.78	$ 17.88
Low Growth High Price	Malin	2028-2029	$ 19.04	$ 19.13	$ 19.48	$ 19.58	$ 18.98	$ 18.02	$ 18.14	$ 18.25	$ 18.36	$ 18.48	$ 18.45	$ 18.56
Low Growth High Price	Malin	2029-2030	$ 18.56	$ 18.56										
Low Growth High Price	Rockies	2009-2010	$ 5.69	$ 6.11	$ 6.49	$ 6.58	$ 6.27	$ 4.53	$ 4.61	$ 4.71	$ 4.82	$ 4.91	$ 4.88	$ 4.95
Low Growth High Price	Rockies	2010-2011	$ 7.42	$ 7.63	$ 7.69	$ 7.71	$ 7.32	$ 5.54	$ 5.57	$ 5.62	$ 5.70	$ 5.76	$ 5.75	$ 5.80
Low Growth High Price	Rockies	2011-2012	$ 9.03	$ 9.20	$ 10.21	$ 10.26	$ 9.84	$ 9.20	$ 9.24	$ 9.29	$ 9.39	$ 9.44	$ 9.40	$ 9.43
Low Growth High Price	Rockies	2012-2013	$ 10.52	$ 10.67	$ 11.17	$ 11.18	$ 10.68	$ 10.11	$ 10.16	$ 10.24	$ 10.32	$ 10.37	$ 10.34	$ 10.40
Low Growth High Price	Rockies	2013-2014	$ 10.74	$ 10.81	$ 10.72	$ 10.78	$ 10.26	$ 9.86	$ 9.89	$ 9.95	$ 10.01	$ 10.05	$ 10.00	$ 10.02
Low Growth High Price	Rockies	2014-2015	$ 11.94	$ 12.07	$ 13.27	$ 13.35	$ 12.78	$ 12.34	$ 12.45	$ 12.52	$ 12.62	$ 12.65	$ 12.59	$ 12.59
Low Growth High Price	Rockies	2015-2016	$ 13.36	$ 13.56	$ 13.82	$ 13.89	$ 13.29	$ 12.85	$ 12.96	$ 13.00	$ 13.12	$ 13.14	$ 13.08	$ 13.13
Low Growth High Price	Rockies	2016-2017	$ 13.85	$ 13.98	$ 14.08	$ 14.16	$ 13.57	$ 13.11	$ 13.26	$ 13.29	$ 13.37	$ 13.43	$ 13.37	$ 13.39
Low Growth High Price	Rockies	2017-2018	$ 14.12	$ 14.22	$ 14.94	$ 15.01	$ 14.44	$ 14.02	$ 14.14	$ 14.20	$ 14.31	$ 14.36	$ 14.26	$ 14.27
Low Growth High Price	Rockies	2018-2019	$ 15.02	$ 15.12	$ 15.17	$ 15.22	$ 14.68	$ 14.21	$ 14.29	$ 14.36	$ 14.44	$ 14.45	$ 14.41	$ 14.47
Low Growth High Price	Rockies	2019-2020	$ 15.18	$ 15.31	$ 15.35	$ 15.44	$ 14.98	$ 14.46	$ 14.57	$ 14.66	$ 14.78	$ 14.85	$ 14.80	$ 14.83
Low Growth High Price	Rockies	2020-2021	$ 15.60	$ 15.69	$ 15.71	$ 15.80	$ 15.23	$ 14.68	$ 14.80	$ 14.88	$ 14.99	$ 15.04	$ 14.97	$ 15.00
Low Growth High Price	Rockies	2021-2022	$ 15.75	$ 15.93	$ 15.95	$ 16.04	$ 15.42	$ 14.89	$ 15.01	$ 15.09	$ 15.23	$ 15.30	$ 15.23	$ 15.27
Low Growth High Price	Rockies	2022-2023	$ 16.08	$ 16.21	$ 16.24	$ 16.31	$ 15.79	$ 15.17	$ 15.28	$ 15.38	$ 15.51	$ 15.58	$ 15.54	$ 15.58
Low Growth High Price	Rockies	2023-2024	$ 16.43	$ 16.55	$ 16.61	$ 16.65	$ 16.09	$ 15.49	$ 15.61	$ 15.71	$ 15.83	$ 15.89	$ 15.85	$ 15.91
Low Growth High Price	Rockies	2024-2025	$ 16.72	$ 16.87	$ 16.91	$ 16.95	$ 16.34	$ 15.77	$ 15.89	$ 15.98	$ 16.10	$ 16.19	$ 16.14	$ 16.19
Low Growth High Price	Rockies	2025-2026	$ 17.05	$ 17.10	$ 17.51	$ 17.55	$ 16.95	$ 16.37	$ 16.48	$ 16.58	$ 16.70	$ 16.76	$ 16.69	$ 16.72
Low Growth High Price	Rockies	2026-2027	$ 17.58	$ 17.72	$ 18.11	$ 18.19	$ 17.58	$ 17.03	$ 17.16	$ 17.26	$ 17.36	$ 17.46	$ 17.38	$ 17.43
Low Growth High Price	Rockies	2027-2028	$ 18.20	$ 18.36	$ 18.76	$ 18.85	$ 18.21	$ 17.66	$ 17.80	$ 17.90	$ 18.01	$ 18.11	$ 18.03	$ 18.07
Low Growth High Price	Rockies	2028-2029	$ 18.86	$ 19.02	$ 19.44	$ 19.54	$ 18.87	$ 18.32	$ 18.47	$ 18.57	$ 18.69	$ 18.79	$ 18.70	$ 18.74
Low Growth High Price	Rockies	2029-2030	$ 18.74	$ 18.74										

Appendix 6.1 - Monthly Price Data by Basin

2009$

Scenario	Index	Gas Year	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Low Growth High Price	Stanfield	2009-2010	$ 6.99	$ 7.37	$ 7.71	$ 7.77	$ 7.56	$ 6.89	$ 6.96	$ 7.06	$ 7.16	$ 7.25	$ 7.23	$ 7.29
Low Growth High Price	Stanfield	2010-2011	$ 8.52	$ 8.73	$ 8.77	$ 8.80	$ 8.62	$ 7.75	$ 7.78	$ 7.87	$ 7.96	$ 8.03	$ 8.04	$ 8.09
Low Growth High Price	Stanfield	2011-2012	$ 9.06	$ 9.23	$ 10.23	$ 10.28	$ 9.96	$ 9.20	$ 9.22	$ 9.32	$ 9.43	$ 9.50	$ 9.50	$ 9.54
Low Growth High Price	Stanfield	2012-2013	$ 10.69	$ 10.85	$ 11.36	$ 11.37	$ 11.01	$ 10.21	$ 10.26	$ 10.37	$ 10.44	$ 10.51	$ 10.49	$ 10.59
Low Growth High Price	Stanfield	2013-2014	$ 11.06	$ 11.13	$ 11.05	$ 11.12	$ 10.73	$ 10.06	$ 10.05	$ 10.19	$ 10.28	$ 10.34	$ 10.29	$ 10.33
Low Growth High Price	Stanfield	2014-2015	$ 12.26	$ 12.39	$ 13.61	$ 13.69	$ 13.34	$ 12.58	$ 12.65	$ 12.74	$ 12.88	$ 12.92	$ 12.87	$ 12.90
Low Growth High Price	Stanfield	2015-2016	$ 13.77	$ 14.00	$ 14.28	$ 14.38	$ 14.00	$ 13.19	$ 13.23	$ 13.25	$ 13.44	$ 13.46	$ 13.45	$ 13.53
Low Growth High Price	Stanfield	2016-2017	$ 14.44	$ 14.57	$ 14.68	$ 14.75	$ 14.20	$ 13.37	$ 13.46	$ 13.47	$ 13.55	$ 13.60	$ 13.56	$ 13.63
Low Growth High Price	Stanfield	2017-2018	$ 14.56	$ 14.66	$ 15.38	$ 15.45	$ 14.98	$ 14.22	$ 14.31	$ 14.37	$ 14.49	$ 14.54	$ 14.45	$ 14.48
Low Growth High Price	Stanfield	2018-2019	$ 15.46	$ 15.56	$ 15.61	$ 15.64	$ 15.17	$ 14.41	$ 14.47	$ 14.54	$ 14.62	$ 14.64	$ 14.60	$ 14.70
Low Growth High Price	Stanfield	2019-2020	$ 15.66	$ 15.78	$ 15.80	$ 15.88	$ 15.47	$ 14.56	$ 14.64	$ 14.73	$ 14.89	$ 14.90	$ 14.92	$ 15.03
Low Growth High Price	Stanfield	2020-2021	$ 16.01	$ 16.09	$ 16.11	$ 16.17	$ 15.49	$ 14.73	$ 14.79	$ 14.86	$ 14.97	$ 14.93	$ 14.91	$ 14.89
Low Growth High Price	Stanfield	2021-2022	$ 15.90	$ 16.06	$ 15.92	$ 16.00	$ 15.46	$ 14.68	$ 14.77	$ 14.86	$ 14.98	$ 15.03	$ 15.03	$ 15.08
Low Growth High Price	Stanfield	2022-2023	$ 16.12	$ 16.23	$ 16.10	$ 16.18	$ 15.69	$ 14.83	$ 14.95	$ 15.04	$ 15.19	$ 15.23	$ 15.26	$ 15.32
Low Growth High Price	Stanfield	2023-2024	$ 16.40	$ 16.54	$ 16.51	$ 16.54	$ 16.00	$ 15.13	$ 15.24	$ 15.35	$ 15.47	$ 15.53	$ 15.56	$ 15.65
Low Growth High Price	Stanfield	2024-2025	$ 16.75	$ 16.90	$ 16.83	$ 16.85	$ 16.23	$ 15.38	$ 15.49	$ 15.61	$ 15.71	$ 15.80	$ 15.81	$ 15.89
Low Growth High Price	Stanfield	2025-2026	$ 17.11	$ 17.09	$ 17.43	$ 17.45	$ 16.89	$ 15.95	$ 16.07	$ 16.18	$ 16.29	$ 16.35	$ 16.37	$ 16.47
Low Growth High Price	Stanfield	2026-2027	$ 17.59	$ 17.66	$ 18.02	$ 18.11	$ 17.57	$ 16.62	$ 16.72	$ 16.82	$ 16.92	$ 17.03	$ 16.99	$ 17.07
Low Growth High Price	Stanfield	2027-2028	$ 18.21	$ 18.29	$ 18.67	$ 18.77	$ 18.20	$ 17.26	$ 17.36	$ 17.46	$ 17.57	$ 17.68	$ 17.63	$ 17.72
Low Growth High Price	Stanfield	2028-2029	$ 18.87	$ 18.96	$ 19.36	$ 19.46	$ 18.86	$ 17.92	$ 18.03	$ 18.14	$ 18.24	$ 18.36	$ 18.31	$ 18.39
Low Growth High Price	Stanfield	2029-2030	$ 18.39	$ 18.39										
Low Growth High Price	Sumas	2009-2010	$ 7.12	$ 7.51	$ 7.87	$ 7.93	$ 7.62	$ 6.95	$ 6.94	$ 7.01	$ 7.12	$ 7.21	$ 7.24	$ 7.34
Low Growth High Price	Sumas	2010-2011	$ 8.67	$ 8.89	$ 8.95	$ 8.97	$ 8.58	$ 7.79	$ 7.78	$ 7.85	$ 7.95	$ 8.02	$ 8.06	$ 8.16
Low Growth High Price	Sumas	2011-2012	$ 9.21	$ 9.39	$ 10.39	$ 10.44	$ 10.02	$ 9.30	$ 9.25	$ 9.31	$ 9.43	$ 9.51	$ 9.54	$ 9.63
Low Growth High Price	Sumas	2012-2013	$ 10.84	$ 11.00	$ 11.51	$ 11.53	$ 11.06	$ 10.29	$ 10.29	$ 10.37	$ 10.46	$ 10.54	$ 10.54	$ 10.66
Low Growth High Price	Sumas	2013-2014	$ 11.21	$ 11.28	$ 11.20	$ 11.27	$ 10.78	$ 10.15	$ 10.15	$ 10.21	$ 10.32	$ 10.37	$ 10.36	$ 10.42
Low Growth High Price	Sumas	2014-2015	$ 12.41	$ 12.54	$ 13.75	$ 13.82	$ 13.37	$ 12.69	$ 12.71	$ 12.77	$ 12.92	$ 12.96	$ 12.94	$ 13.00
Low Growth High Price	Sumas	2015-2016	$ 13.91	$ 14.12	$ 14.38	$ 14.45	$ 14.00	$ 13.29	$ 13.31	$ 13.32	$ 13.52	$ 13.54	$ 13.53	$ 13.64
Low Growth High Price	Sumas	2016-2017	$ 14.56	$ 14.70	$ 14.80	$ 14.88	$ 14.22	$ 13.52	$ 13.56	$ 13.59	$ 13.67	$ 13.73	$ 13.69	$ 13.78
Low Growth High Price	Sumas	2017-2018	$ 14.73	$ 14.83	$ 15.55	$ 15.62	$ 15.03	$ 14.40	$ 14.45	$ 14.50	$ 14.62	$ 14.68	$ 14.60	$ 14.67
Low Growth High Price	Sumas	2018-2019	$ 15.67	$ 15.74	$ 15.78	$ 15.83	$ 15.24	$ 14.62	$ 14.64	$ 14.71	$ 14.79	$ 14.83	$ 14.80	$ 14.91
Low Growth High Price	Sumas	2019-2020	$ 15.85	$ 15.96	$ 15.99	$ 16.07	$ 15.52	$ 14.80	$ 14.83	$ 14.91	$ 15.07	$ 15.10	$ 15.12	$ 15.23
Low Growth High Price	Sumas	2020-2021	$ 16.16	$ 16.26	$ 16.27	$ 16.35	$ 15.68	$ 15.00	$ 15.01	$ 15.09	$ 15.21	$ 15.19	$ 15.15	$ 15.26
Low Growth High Price	Sumas	2021-2022	$ 16.23	$ 16.36	$ 16.38	$ 16.46	$ 15.76	$ 15.05	$ 15.10	$ 15.19	$ 15.31	$ 15.36	$ 15.34	$ 15.51
Low Growth High Price	Sumas	2022-2023	$ 16.45	$ 16.54	$ 16.57	$ 16.64	$ 16.08	$ 15.39	$ 15.36	$ 15.44	$ 15.57	$ 15.60	$ 15.65	$ 15.80
Low Growth High Price	Sumas	2023-2024	$ 16.72	$ 16.84	$ 16.91	$ 16.95	$ 16.38	$ 15.69	$ 15.69	$ 15.78	$ 15.89	$ 15.95	$ 15.93	$ 16.12
Low Growth High Price	Sumas	2024-2025	$ 17.08	$ 17.23	$ 17.28	$ 17.32	$ 16.63	$ 15.97	$ 15.96	$ 16.05	$ 16.16	$ 16.25	$ 16.23	$ 16.38
Low Growth High Price	Sumas	2025-2026	$ 17.44	$ 17.47	$ 17.88	$ 17.93	$ 17.25	$ 16.58	$ 16.55	$ 16.65	$ 16.77	$ 16.83	$ 16.82	$ 16.98
Low Growth High Price	Sumas	2026-2027	$ 17.96	$ 18.06	$ 18.45	$ 18.53	$ 17.89	$ 17.23	$ 17.24	$ 17.32	$ 17.43	$ 17.53	$ 17.47	$ 17.60
Low Growth High Price	Sumas	2027-2028	$ 18.59	$ 18.69	$ 19.10	$ 19.19	$ 18.52	$ 17.86	$ 17.88	$ 17.96	$ 18.07	$ 18.18	$ 18.12	$ 18.24
Low Growth High Price	Sumas	2028-2029	$ 19.24	$ 19.36	$ 19.78	$ 19.88	$ 19.19	$ 18.52	$ 18.55	$ 18.63	$ 18.75	$ 18.86	$ 18.79	$ 18.92
Low Growth High Price	Sumas	2029-2030	$ 18.92	$ 18.92										

Appendix 6.1 - Monthly Price Data by Basin

2009$

Scenario	Index	Gas Year	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Green Future	AECo	2009-2010	$ 4.33	$ 4.85	$ 4.97	$ 5.05	$ 4.99	$ 4.75	$ 4.65	$ 4.78	$ 4.80	$ 4.89	$ 4.90	$ 5.09
Green Future	AECo	2010-2011	$ 5.39	$ 5.62	$ 5.56	$ 5.58	$ 5.29	$ 5.03	$ 5.00	$ 5.06	$ 5.06	$ 5.10	$ 5.13	$ 5.27
Green Future	AECo	2011-2012	$ 5.46	$ 5.63	$ 6.03	$ 6.03	$ 5.72	$ 5.47	$ 5.47	$ 5.52	$ 5.52	$ 5.54	$ 5.52	$ 5.67
Green Future	AECo	2012-2013	$ 5.85	$ 5.96	$ 6.50	$ 6.55	$ 6.06	$ 5.80	$ 5.80	$ 5.84	$ 5.86	$ 5.89	$ 5.87	$ 5.96
Green Future	AECo	2013-2014	$ 5.41	$ 5.49	$ 5.55	$ 5.57	$ 5.36	$ 5.24	$ 5.31	$ 5.34	$ 5.36	$ 5.37	$ 5.33	$ 5.46
Green Future	AECo	2014-2015	$ 6.40	$ 6.52	$ 9.46	$ 9.53	$ 9.26	$ 9.09	$ 9.14	$ 9.19	$ 9.23	$ 9.26	$ 9.21	$ 9.36
Green Future	AECo	2015-2016	$ 9.76	$ 9.90	$ 10.13	$ 10.16	$ 9.98	$ 9.87	$ 9.94	$ 10.01	$ 10.01	$ 10.03	$ 10.02	$ 10.11
Green Future	AECo	2016-2017	$ 10.51	$ 10.61	$ 11.05	$ 11.03	$ 10.67	$ 10.56	$ 10.58	$ 10.61	$ 10.65	$ 10.68	$ 10.65	$ 10.79
Green Future	AECo	2017-2018	$ 11.27	$ 11.34	$ 11.83	$ 11.85	$ 11.52	$ 11.32	$ 11.28	$ 11.35	$ 11.34	$ 11.41	$ 11.38	$ 11.57
Green Future	AECo	2018-2019	$ 12.12	$ 12.20	$ 12.47	$ 12.46	$ 12.21	$ 11.95	$ 11.95	$ 11.99	$ 12.03	$ 12.07	$ 12.02	$ 12.19
Green Future	AECo	2019-2020	$ 12.55	$ 12.70	$ 13.02	$ 13.05	$ 12.52	$ 12.38	$ 12.36	$ 12.39	$ 12.41	$ 12.45	$ 12.15	$ 12.22
Green Future	AECo	2020-2021	$ 12.59	$ 12.72	$ 13.06	$ 13.11	$ 12.90	$ 12.58	$ 12.59	$ 12.61	$ 12.63	$ 12.65	$ 12.47	$ 12.53
Green Future	AECo	2021-2022	$ 12.89	$ 12.96	$ 13.32	$ 13.35	$ 13.08	$ 12.78	$ 12.79	$ 12.84	$ 12.79	$ 12.84	$ 12.85	$ 12.95
Green Future	AECo	2022-2023	$ 13.30	$ 13.43	$ 13.82	$ 13.86	$ 13.51	$ 13.26	$ 13.23	$ 13.24	$ 13.26	$ 13.17	$ 13.11	$ 13.24
Green Future	AECo	2023-2024	$ 13.49	$ 13.56	$ 13.81	$ 13.77	$ 13.36	$ 13.23	$ 13.24	$ 13.27	$ 13.25	$ 13.30	$ 13.32	$ 13.33
Green Future	AECo	2024-2025	$ 13.61	$ 13.73	$ 14.18	$ 14.26	$ 13.85	$ 13.65	$ 13.65	$ 13.67	$ 13.66	$ 13.69	$ 13.70	$ 13.71
Green Future	AECo	2025-2026	$ 14.01	$ 14.16	$ 14.61	$ 14.60	$ 14.31	$ 14.11	$ 14.12	$ 14.13	$ 14.13	$ 14.17	$ 14.17	$ 14.21
Green Future	AECo	2026-2027	$ 14.53	$ 14.67	$ 15.18	$ 15.16	$ 14.79	$ 14.63	$ 14.68	$ 14.66	$ 14.72	$ 14.76	$ 14.79	$ 14.93
Green Future	AECo	2027-2028	$ 15.00	$ 15.11	$ 15.66	$ 15.69	$ 15.29	$ 15.15	$ 15.18	$ 15.18	$ 15.23	$ 15.28	$ 15.33	$ 15.45
Green Future	AECo	2028-2029	$ 15.54	$ 15.63	$ 16.21	$ 16.25	$ 15.87	$ 15.69	$ 15.72	$ 15.74	$ 15.76	$ 15.79	$ 15.82	$ 15.98
Green Future	AECo	2029-2030	$ 15.98	$ 15.98										
Green Future	Malin	2009-2010	$ 4.67	$ 5.19	$ 5.32	$ 5.40	$ 5.26	$ 5.03	$ 4.91	$ 5.08	$ 5.13	$ 5.24	$ 5.24	$ 5.41
Green Future	Malin	2010-2011	$ 5.74	$ 5.95	$ 5.88	$ 5.90	$ 5.57	$ 5.31	$ 5.29	$ 5.35	$ 5.36	$ 5.41	$ 5.44	$ 5.57
Green Future	Malin	2011-2012	$ 5.74	$ 5.92	$ 6.30	$ 6.30	$ 5.95	$ 5.71	$ 5.70	$ 5.76	$ 5.78	$ 5.81	$ 5.79	$ 5.93
Green Future	Malin	2012-2013	$ 6.10	$ 6.22	$ 6.75	$ 6.80	$ 6.25	$ 6.01	$ 6.02	$ 6.05	$ 6.11	$ 6.16	$ 6.13	$ 6.21
Green Future	Malin	2013-2014	$ 5.66	$ 5.75	$ 5.78	$ 5.81	$ 5.52	$ 5.44	$ 5.52	$ 5.54	$ 5.58	$ 5.61	$ 5.57	$ 5.70
Green Future	Malin	2014-2015	$ 6.63	$ 6.75	$ 9.68	$ 9.75	$ 9.41	$ 9.27	$ 9.33	$ 9.37	$ 9.45	$ 9.49	$ 9.43	$ 9.58
Green Future	Malin	2015-2016	$ 9.96	$ 10.11	$ 10.33	$ 10.36	$ 10.11	$ 10.04	$ 10.12	$ 10.19	$ 10.23	$ 10.25	$ 10.25	$ 10.32
Green Future	Malin	2016-2017	$ 10.73	$ 10.83	$ 11.26	$ 11.24	$ 10.82	$ 10.75	$ 10.78	$ 10.81	$ 10.87	$ 10.92	$ 10.89	$ 11.02
Green Future	Malin	2017-2018	$ 11.48	$ 11.55	$ 12.03	$ 12.07	$ 11.66	$ 11.50	$ 11.48	$ 11.54	$ 11.58	$ 11.65	$ 11.63	$ 11.81
Green Future	Malin	2018-2019	$ 12.34	$ 12.43	$ 12.64	$ 12.64	$ 12.35	$ 12.12	$ 12.14	$ 12.18	$ 12.27	$ 12.31	$ 12.27	$ 12.42
Green Future	Malin	2019-2020	$ 12.78	$ 12.93	$ 13.20	$ 13.25	$ 12.67	$ 12.57	$ 12.56	$ 12.59	$ 12.66	$ 12.69	$ 12.40	$ 12.45
Green Future	Malin	2020-2021	$ 12.82	$ 12.95	$ 13.24	$ 13.29	$ 13.04	$ 12.76	$ 12.77	$ 12.81	$ 12.86	$ 12.89	$ 12.72	$ 12.74
Green Future	Malin	2021-2022	$ 13.10	$ 13.18	$ 13.48	$ 13.52	$ 13.22	$ 12.95	$ 12.97	$ 13.02	$ 13.01	$ 13.06	$ 13.08	$ 13.16
Green Future	Malin	2022-2023	$ 13.50	$ 13.63	$ 13.98	$ 14.02	$ 13.65	$ 13.41	$ 13.39	$ 13.40	$ 13.46	$ 13.42	$ 13.38	$ 13.53
Green Future	Malin	2023-2024	$ 13.81	$ 13.90	$ 14.07	$ 14.07	$ 13.62	$ 13.49	$ 13.52	$ 13.54	$ 13.60	$ 13.65	$ 13.69	$ 13.69
Green Future	Malin	2024-2025	$ 13.95	$ 14.07	$ 14.49	$ 14.58	$ 14.12	$ 13.93	$ 13.94	$ 13.96	$ 14.01	$ 14.06	$ 14.08	$ 14.06
Green Future	Malin	2025-2026	$ 14.36	$ 14.52	$ 14.94	$ 14.94	$ 14.59	$ 14.42	$ 14.44	$ 14.45	$ 14.49	$ 14.53	$ 14.55	$ 14.57
Green Future	Malin	2026-2027	$ 14.89	$ 15.03	$ 15.51	$ 15.50	$ 15.08	$ 14.93	$ 14.99	$ 14.99	$ 15.07	$ 15.12	$ 15.16	$ 15.30
Green Future	Malin	2027-2028	$ 15.36	$ 15.48	$ 15.98	$ 16.01	$ 15.57	$ 15.44	$ 15.49	$ 15.51	$ 15.58	$ 15.63	$ 15.69	$ 15.82
Green Future	Malin	2028-2029	$ 15.91	$ 16.01	$ 16.55	$ 16.59	$ 16.15	$ 15.98	$ 16.03	$ 16.04	$ 16.10	$ 16.13	$ 16.17	$ 16.34
Green Future	Malin	2029-2030	$ 16.34	$ 16.34										
Green Future	Rockies	2009-2010	$ 4.42	$ 4.92	$ 5.05	$ 5.17	$ 4.99	$ 4.75	$ 4.70	$ 4.70	$ 4.78	$ 4.88	$ 4.94	$ 5.16
Green Future	Rockies	2010-2011	$ 5.55	$ 5.75	$ 5.69	$ 5.71	$ 5.36	$ 5.07	$ 5.07	$ 4.99	$ 5.06	$ 5.10	$ 5.13	$ 5.32
Green Future	Rockies	2011-2012	$ 5.60	$ 5.73	$ 6.14	$ 6.14	$ 5.76	$ 5.53	$ 5.55	$ 5.45	$ 5.52	$ 5.54	$ 5.51	$ 5.71
Green Future	Rockies	2012-2013	$ 5.89	$ 5.96	$ 6.50	$ 6.55	$ 5.98	$ 5.76	$ 5.79	$ 5.69	$ 5.78	$ 5.82	$ 5.80	$ 5.92
Green Future	Rockies	2013-2014	$ 5.36	$ 5.40	$ 5.45	$ 5.49	$ 5.19	$ 5.14	$ 5.23	$ 5.13	$ 5.21	$ 5.23	$ 5.18	$ 5.33
Green Future	Rockies	2014-2015	$ 6.27	$ 6.35	$ 9.29	$ 9.37	$ 9.01	$ 8.89	$ 8.96	$ 8.87	$ 8.99	$ 9.01	$ 8.95	$ 9.11
Green Future	Rockies	2015-2016	$ 9.52	$ 9.65	$ 9.87	$ 9.90	$ 9.63	$ 9.58	$ 9.67	$ 9.61	$ 9.68	$ 9.69	$ 9.69	$ 9.78
Green Future	Rockies	2016-2017	$ 10.28	$ 10.34	$ 10.78	$ 10.77	$ 10.37	$ 10.34	$ 10.40	$ 10.30	$ 10.39	$ 10.43	$ 10.41	$ 10.56
Green Future	Rockies	2017-2018	$ 11.00	$ 11.03	$ 11.52	$ 11.56	$ 11.17	$ 11.06	$ 11.07	$ 11.00	$ 11.08	$ 11.14	$ 11.11	$ 11.32
Green Future	Rockies	2018-2019	$ 11.81	$ 11.87	$ 12.13	$ 12.13	$ 11.87	$ 11.68	$ 11.73	$ 11.64	$ 11.75	$ 11.78	$ 11.73	$ 11.91
Green Future	Rockies	2019-2020	$ 12.24	$ 12.35	$ 12.67	$ 12.71	$ 12.15	$ 12.09	$ 12.10	$ 11.99	$ 12.07	$ 12.12	$ 11.81	$ 11.90
Green Future	Rockies	2020-2021	$ 12.21	$ 12.31	$ 12.65	$ 12.68	$ 12.38	$ 12.16	$ 12.18	$ 12.07	$ 12.14	$ 12.17	$ 11.98	$ 12.06
Green Future	Rockies	2021-2022	$ 12.39	$ 12.42	$ 12.75	$ 12.80	$ 12.51	$ 12.28	$ 12.31	$ 12.23	$ 12.25	$ 12.30	$ 12.31	$ 12.44
Green Future	Rockies	2022-2023	$ 12.75	$ 12.86	$ 13.22	$ 13.26	$ 12.91	$ 12.73	$ 12.71	$ 12.60	$ 12.70	$ 12.65	$ 12.65	$ 12.84
Green Future	Rockies	2023-2024	$ 13.12	$ 13.18	$ 13.53	$ 13.56	$ 13.18	$ 13.04	$ 13.09	$ 12.97	$ 13.02	$ 13.07	$ 13.11	$ 13.16
Green Future	Rockies	2024-2025	$ 13.45	$ 13.55	$ 13.99	$ 14.08	$ 13.67	$ 13.47	$ 13.50	$ 13.39	$ 13.44	$ 13.47	$ 13.50	$ 13.54
Green Future	Rockies	2025-2026	$ 13.85	$ 13.97	$ 14.40	$ 14.42	$ 14.12	$ 13.92	$ 13.96	$ 13.81	$ 13.87	$ 13.90	$ 13.91	$ 13.97
Green Future	Rockies	2026-2027	$ 14.30	$ 14.41	$ 14.91	$ 14.91	$ 14.57	$ 14.38	$ 14.43	$ 14.28	$ 14.39	$ 14.43	$ 14.47	$ 14.64
Green Future	Rockies	2027-2028	$ 14.69	$ 14.77	$ 15.30	$ 15.33	$ 14.97	$ 14.81	$ 14.87	$ 14.72	$ 14.84	$ 14.87	$ 14.93	$ 15.11
Green Future	Rockies	2028-2029	$ 15.19	$ 15.25	$ 15.80	$ 15.84	$ 15.49	$ 15.32	$ 15.35	$ 15.23	$ 15.34	$ 15.37	$ 15.41	$ 15.62
Green Future	Rockies	2029-2030	$ 15.62	$ 15.62										

Appendix 6.1 - Monthly Price Data by Basin

2009$

Scenario	Index	Gas Year	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Green Future	Stanfield	2009-2010	$ 4.53	$ 5.04	$ 5.17	$ 5.25	$ 5.14	$ 4.90	$ 4.79	$ 4.94	$ 4.97	$ 5.07	$ 5.08	$ 5.26
Green Future	Stanfield	2010-2011	$ 5.58	$ 5.80	$ 5.75	$ 5.77	$ 5.45	$ 5.18	$ 5.16	$ 5.21	$ 5.21	$ 5.26	$ 5.29	$ 5.43
Green Future	Stanfield	2011-2012	$ 5.62	$ 5.79	$ 6.18	$ 6.18	$ 5.85	$ 5.59	$ 5.59	$ 5.65	$ 5.65	$ 5.68	$ 5.66	$ 5.81
Green Future	Stanfield	2012-2013	$ 5.99	$ 6.11	$ 6.64	$ 6.69	$ 6.16	$ 5.92	$ 5.91	$ 5.95	$ 5.99	$ 6.03	$ 6.01	$ 6.09
Green Future	Stanfield	2013-2014	$ 5.55	$ 5.63	$ 5.68	$ 5.71	$ 5.45	$ 5.34	$ 5.42	$ 5.44	$ 5.46	$ 5.49	$ 5.45	$ 5.58
Green Future	Stanfield	2014-2015	$ 6.52	$ 6.65	$ 9.58	$ 9.65	$ 9.34	$ 9.18	$ 9.24	$ 9.28	$ 9.33	$ 9.37	$ 9.32	$ 9.47
Green Future	Stanfield	2015-2016	$ 9.87	$ 10.01	$ 10.25	$ 10.27	$ 10.05	$ 9.96	$ 10.03	$ 10.09	$ 10.12	$ 10.13	$ 10.14	$ 10.22
Green Future	Stanfield	2016-2017	$ 10.63	$ 10.73	$ 11.16	$ 11.15	$ 10.75	$ 10.65	$ 10.68	$ 10.71	$ 10.75	$ 10.79	$ 10.77	$ 10.91
Green Future	Stanfield	2017-2018	$ 11.39	$ 11.46	$ 11.94	$ 11.97	$ 11.60	$ 11.41	$ 11.38	$ 11.44	$ 11.45	$ 11.52	$ 11.51	$ 11.69
Green Future	Stanfield	2018-2019	$ 12.24	$ 12.33	$ 12.56	$ 12.57	$ 12.29	$ 12.04	$ 12.05	$ 12.08	$ 12.14	$ 12.18	$ 12.14	$ 12.31
Green Future	Stanfield	2019-2020	$ 12.68	$ 12.82	$ 13.12	$ 13.16	$ 12.61	$ 12.48	$ 12.47	$ 12.49	$ 12.53	$ 12.57	$ 12.28	$ 12.34
Green Future	Stanfield	2020-2021	$ 12.72	$ 12.85	$ 13.16	$ 13.21	$ 12.98	$ 12.67	$ 12.68	$ 12.71	$ 12.74	$ 12.77	$ 12.59	$ 12.64
Green Future	Stanfield	2021-2022	$ 13.01	$ 13.08	$ 13.41	$ 13.44	$ 13.15	$ 12.87	$ 12.88	$ 12.93	$ 12.90	$ 12.94	$ 12.97	$ 13.06
Green Future	Stanfield	2022-2023	$ 13.41	$ 13.54	$ 13.90	$ 13.95	$ 13.58	$ 13.34	$ 13.30	$ 13.32	$ 13.35	$ 13.29	$ 13.25	$ 13.40
Green Future	Stanfield	2023-2024	$ 13.66	$ 13.75	$ 13.96	$ 13.94	$ 13.50	$ 13.36	$ 13.38	$ 13.41	$ 13.43	$ 13.48	$ 13.52	$ 13.52
Green Future	Stanfield	2024-2025	$ 13.80	$ 13.92	$ 14.35	$ 14.43	$ 13.99	$ 13.79	$ 13.80	$ 13.82	$ 13.83	$ 13.88	$ 13.90	$ 13.89
Green Future	Stanfield	2025-2026	$ 14.21	$ 14.36	$ 14.79	$ 14.79	$ 14.46	$ 14.27	$ 14.29	$ 14.30	$ 14.31	$ 14.35	$ 14.37	$ 14.40
Green Future	Stanfield	2026-2027	$ 14.73	$ 14.87	$ 15.36	$ 15.35	$ 14.94	$ 14.79	$ 14.84	$ 14.83	$ 14.89	$ 14.94	$ 14.98	$ 15.13
Green Future	Stanfield	2027-2028	$ 15.20	$ 15.31	$ 15.83	$ 15.87	$ 15.44	$ 15.30	$ 15.34	$ 15.35	$ 15.40	$ 15.45	$ 15.52	$ 15.65
Green Future	Stanfield	2028-2029	$ 15.74	$ 15.84	$ 16.40	$ 16.44	$ 16.02	$ 15.84	$ 15.88	$ 15.90	$ 15.93	$ 15.96	$ 16.00	$ 16.16
Green Future	Stanfield	2029-2030	$ 16.16	$ 16.16										
Green Future	Sumas	2009-2010	$ 4.63	$ 5.15	$ 5.28	$ 5.36	$ 5.23	$ 4.86	$ 4.64	$ 4.75	$ 4.78	$ 4.88	$ 4.91	$ 5.19
Green Future	Sumas	2010-2011	$ 5.70	$ 5.92	$ 5.87	$ 5.89	$ 5.54	$ 5.16	$ 5.01	$ 5.05	$ 5.05	$ 5.10	$ 5.15	$ 5.37
Green Future	Sumas	2011-2012	$ 5.71	$ 5.88	$ 6.29	$ 6.30	$ 5.93	$ 5.60	$ 5.48	$ 5.51	$ 5.52	$ 5.55	$ 5.54	$ 5.74
Green Future	Sumas	2012-2013	$ 6.10	$ 6.21	$ 6.75	$ 6.80	$ 6.23	$ 5.91	$ 5.81	$ 5.84	$ 5.87	$ 5.91	$ 5.91	$ 6.01
Green Future	Sumas	2013-2014	$ 5.64	$ 5.73	$ 5.78	$ 5.81	$ 5.51	$ 5.34	$ 5.33	$ 5.35	$ 5.37	$ 5.39	$ 5.37	$ 5.52
Green Future	Sumas	2014-2015	$ 6.61	$ 6.73	$ 9.68	$ 9.75	$ 9.40	$ 9.18	$ 9.17	$ 9.21	$ 9.25	$ 9.29	$ 9.26	$ 9.43
Green Future	Sumas	2015-2016	$ 9.95	$ 10.09	$ 10.34	$ 10.36	$ 10.11	$ 9.96	$ 9.98	$ 10.04	$ 10.05	$ 10.06	$ 10.08	$ 10.19
Green Future	Sumas	2016-2017	$ 10.71	$ 10.81	$ 11.26	$ 11.24	$ 10.80	$ 10.65	$ 10.63	$ 10.64	$ 10.68	$ 10.71	$ 10.71	$ 10.87
Green Future	Sumas	2017-2018	$ 11.47	$ 11.54	$ 12.03	$ 12.07	$ 11.66	$ 11.41	$ 11.32	$ 11.37	$ 11.38	$ 11.45	$ 11.44	$ 11.66
Green Future	Sumas	2018-2019	$ 12.32	$ 12.42	$ 12.68	$ 12.68	$ 12.35	$ 12.03	$ 12.00	$ 12.02	$ 12.07	$ 12.12	$ 12.09	$ 12.27
Green Future	Sumas	2019-2020	$ 12.77	$ 12.91	$ 13.24	$ 13.29	$ 12.67	$ 12.47	$ 12.41	$ 12.43	$ 12.46	$ 12.50	$ 12.23	$ 12.31
Green Future	Sumas	2020-2021	$ 12.81	$ 12.94	$ 13.29	$ 13.33	$ 13.04	$ 12.67	$ 12.65	$ 12.66	$ 12.68	$ 12.71	$ 12.56	$ 12.64
Green Future	Sumas	2021-2022	$ 13.11	$ 13.18	$ 13.55	$ 13.60	$ 13.21	$ 12.87	$ 12.85	$ 12.88	$ 12.84	$ 12.89	$ 12.93	$ 13.05
Green Future	Sumas	2022-2023	$ 13.50	$ 13.63	$ 14.03	$ 14.07	$ 13.64	$ 13.35	$ 13.29	$ 13.29	$ 13.31	$ 13.23	$ 13.18	$ 13.34
Green Future	Sumas	2023-2024	$ 13.76	$ 13.87	$ 14.12	$ 14.07	$ 13.54	$ 13.30	$ 13.25	$ 13.26	$ 13.26	$ 13.31	$ 13.36	$ 13.39
Green Future	Sumas	2024-2025	$ 13.92	$ 14.05	$ 14.49	$ 14.58	$ 14.04	$ 13.73	$ 13.68	$ 13.69	$ 13.67	$ 13.71	$ 13.75	$ 13.78
Green Future	Sumas	2025-2026	$ 14.36	$ 14.50	$ 14.94	$ 14.94	$ 14.50	$ 14.22	$ 14.16	$ 14.16	$ 14.15	$ 14.20	$ 14.23	$ 14.28
Green Future	Sumas	2026-2027	$ 14.86	$ 15.00	$ 15.51	$ 15.51	$ 14.93	$ 14.73	$ 14.71	$ 14.61	$ 14.67	$ 14.71	$ 14.84	$ 15.01
Green Future	Sumas	2027-2028	$ 15.32	$ 15.44	$ 15.98	$ 16.02	$ 15.43	$ 15.26	$ 15.22	$ 15.13	$ 15.19	$ 15.24	$ 15.39	$ 15.54
Green Future	Sumas	2028-2029	$ 15.88	$ 15.98	$ 16.56	$ 16.60	$ 16.06	$ 15.80	$ 15.76	$ 15.69	$ 15.72	$ 15.76	$ 15.88	$ 16.06
Green Future	Sumas	2029-2030	$ 16.06	$ 16.06										

Appendix 6.1 - Monthly Price Data by Basin

2009$

Scenario	Index	Gas Year	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Supply Constrained	AECo	2009-2010	$ 6.60	$ 7.01	$ 7.34	$ 7.38	$ 7.16	$ 6.96	$ 6.90	$ 7.04	$ 7.09	$ 7.15	$ 7.13	$ 7.27
Supply Constrained	AECo	2010-2011	$ 8.10	$ 8.37	$ 8.40	$ 8.44	$ 8.07	$ 7.80	$ 7.80	$ 7.88	$ 7.91	$ 7.98	$ 7.96	$ 8.08
Supply Constrained	AECo	2011-2012	$ 8.80	$ 9.01	$ 9.34	$ 9.36	$ 8.93	$ 8.65	$ 8.66	$ 8.74	$ 8.81	$ 8.85	$ 8.80	$ 8.90
Supply Constrained	AECo	2012-2013	$ 9.64	$ 9.83	$ 10.29	$ 10.34	$ 9.90	$ 9.64	$ 9.67	$ 9.75	$ 9.80	$ 9.87	$ 9.77	$ 9.86
Supply Constrained	AECo	2013-2014	$ 9.92	$ 10.06	$ 9.98	$ 10.04	$ 9.59	$ 9.44	$ 9.50	$ 9.56	$ 9.60	$ 9.64	$ 9.56	$ 9.64
Supply Constrained	AECo	2014-2015	$ 11.35	$ 11.51	$ 12.71	$ 12.81	$ 12.28	$ 12.13	$ 12.19	$ 12.25	$ 12.30	$ 12.41	$ 12.27	$ 12.35
Supply Constrained	AECo	2015-2016	$ 13.02	$ 13.18	$ 13.47	$ 13.52	$ 13.00	$ 12.84	$ 12.91	$ 12.98	$ 13.03	$ 13.10	$ 13.00	$ 13.10
Supply Constrained	AECo	2016-2017	$ 13.76	$ 13.92	$ 14.07	$ 14.09	$ 13.55	$ 13.38	$ 13.46	$ 13.51	$ 13.60	$ 13.66	$ 13.54	$ 13.65
Supply Constrained	AECo	2017-2018	$ 14.32	$ 14.47	$ 15.20	$ 15.25	$ 14.73	$ 14.54	$ 14.59	$ 14.67	$ 14.71	$ 14.77	$ 14.69	$ 14.80
Supply Constrained	AECo	2018-2019	$ 15.54	$ 15.70	$ 15.66	$ 15.73	$ 15.14	$ 14.94	$ 15.00	$ 15.08	$ 15.13	$ 15.19	$ 15.10	$ 15.25
Supply Constrained	AECo	2019-2020	$ 15.94	$ 16.10	$ 16.13	$ 16.19	$ 15.61	$ 15.42	$ 15.46	$ 15.53	$ 15.61	$ 15.69	$ 15.55	$ 15.71
Supply Constrained	AECo	2020-2021	$ 16.43	$ 16.59	$ 16.59	$ 16.67	$ 16.18	$ 15.93	$ 16.01	$ 16.08	$ 16.16	$ 16.22	$ 16.12	$ 16.25
Supply Constrained	AECo	2021-2022	$ 16.95	$ 17.12	$ 17.13	$ 17.19	$ 16.66	$ 16.42	$ 16.50	$ 16.57	$ 16.61	$ 16.69	$ 16.62	$ 16.74
Supply Constrained	AECo	2022-2023	$ 17.46	$ 17.62	$ 17.65	$ 17.72	$ 17.11	$ 16.87	$ 16.91	$ 16.96	$ 17.07	$ 17.02	$ 16.92	$ 17.06
Supply Constrained	AECo	2023-2024	$ 17.68	$ 17.85	$ 17.71	$ 17.71	$ 17.06	$ 16.92	$ 17.00	$ 17.08	$ 17.13	$ 17.20	$ 17.13	$ 17.21
Supply Constrained	AECo	2024-2025	$ 17.89	$ 18.04	$ 18.08	$ 18.20	$ 17.54	$ 17.38	$ 17.47	$ 17.54	$ 17.58	$ 17.65	$ 17.58	$ 17.65
Supply Constrained	AECo	2025-2026	$ 18.37	$ 18.55	$ 18.88	$ 18.96	$ 18.32	$ 18.16	$ 18.25	$ 18.31	$ 18.36	$ 18.44	$ 18.35	$ 18.47
Supply Constrained	AECo	2026-2027	$ 19.17	$ 19.37	$ 19.75	$ 19.78	$ 19.11	$ 18.95	$ 19.06	$ 19.12	$ 19.19	$ 19.27	$ 19.19	$ 19.30
Supply Constrained	AECo	2027-2028	$ 20.01	$ 20.19	$ 20.58	$ 20.66	$ 19.94	$ 19.79	$ 19.90	$ 19.98	$ 20.05	$ 20.14	$ 20.07	$ 20.16
Supply Constrained	AECo	2028-2029	$ 20.90	$ 21.07	$ 21.48	$ 21.57	$ 20.84	$ 20.66	$ 20.77	$ 20.87	$ 20.92	$ 21.00	$ 20.90	$ 21.02
Supply Constrained	AECo	2029-2030	$ 21.02	$ 21.02										
Supply Constrained	Malin	2009-2010	$ 6.94	$ 7.35	$ 7.69	$ 7.73	$ 7.44	$ 7.24	$ 7.16	$ 7.34	$ 7.42	$ 7.50	$ 7.47	$ 7.59
Supply Constrained	Malin	2010-2011	$ 8.44	$ 8.70	$ 8.73	$ 8.77	$ 8.36	$ 8.08	$ 8.09	$ 8.16	$ 8.21	$ 8.29	$ 8.27	$ 8.38
Supply Constrained	Malin	2011-2012	$ 9.08	$ 9.30	$ 9.60	$ 9.62	$ 9.17	$ 8.89	$ 8.90	$ 8.97	$ 9.06	$ 9.11	$ 9.06	$ 9.16
Supply Constrained	Malin	2012-2013	$ 9.89	$ 10.08	$ 10.54	$ 10.60	$ 10.10	$ 9.85	$ 9.89	$ 9.96	$ 10.05	$ 10.13	$ 10.04	$ 10.11
Supply Constrained	Malin	2013-2014	$ 10.17	$ 10.32	$ 10.21	$ 10.28	$ 9.76	$ 9.64	$ 9.70	$ 9.76	$ 9.82	$ 9.88	$ 9.80	$ 9.88
Supply Constrained	Malin	2014-2015	$ 11.58	$ 11.74	$ 12.92	$ 13.03	$ 12.44	$ 12.31	$ 12.38	$ 12.44	$ 12.52	$ 12.63	$ 12.50	$ 12.57
Supply Constrained	Malin	2015-2016	$ 13.23	$ 13.39	$ 13.67	$ 13.73	$ 13.14	$ 13.01	$ 13.08	$ 13.15	$ 13.25	$ 13.32	$ 13.23	$ 13.31
Supply Constrained	Malin	2016-2017	$ 13.98	$ 14.14	$ 14.28	$ 14.30	$ 13.70	$ 13.57	$ 13.66	$ 13.71	$ 13.82	$ 13.90	$ 13.78	$ 13.88
Supply Constrained	Malin	2017-2018	$ 14.53	$ 14.69	$ 15.40	$ 15.47	$ 14.88	$ 14.73	$ 14.80	$ 14.86	$ 14.94	$ 15.01	$ 14.94	$ 15.03
Supply Constrained	Malin	2018-2019	$ 15.76	$ 15.92	$ 15.84	$ 15.91	$ 15.28	$ 15.11	$ 15.19	$ 15.27	$ 15.36	$ 15.43	$ 15.34	$ 15.48
Supply Constrained	Malin	2019-2020	$ 16.17	$ 16.33	$ 16.30	$ 16.38	$ 15.77	$ 15.60	$ 15.66	$ 15.73	$ 15.86	$ 15.93	$ 15.80	$ 15.95
Supply Constrained	Malin	2020-2021	$ 16.66	$ 16.82	$ 16.77	$ 16.85	$ 16.33	$ 16.12	$ 16.20	$ 16.27	$ 16.39	$ 16.46	$ 16.36	$ 16.47
Supply Constrained	Malin	2021-2022	$ 17.16	$ 17.34	$ 17.29	$ 17.36	$ 16.79	$ 16.60	$ 16.67	$ 16.75	$ 16.84	$ 16.91	$ 16.85	$ 16.94
Supply Constrained	Malin	2022-2023	$ 17.66	$ 17.82	$ 17.80	$ 17.88	$ 17.25	$ 17.02	$ 17.06	$ 17.12	$ 17.27	$ 17.27	$ 17.20	$ 17.35
Supply Constrained	Malin	2023-2024	$ 18.00	$ 18.19	$ 17.98	$ 18.01	$ 17.32	$ 17.19	$ 17.28	$ 17.36	$ 17.49	$ 17.55	$ 17.50	$ 17.56
Supply Constrained	Malin	2024-2025	$ 18.23	$ 18.38	$ 18.40	$ 18.52	$ 17.81	$ 17.66	$ 17.76	$ 17.83	$ 17.94	$ 18.01	$ 17.96	$ 18.00
Supply Constrained	Malin	2025-2026	$ 18.72	$ 18.90	$ 19.21	$ 19.30	$ 18.61	$ 18.47	$ 18.57	$ 18.63	$ 18.72	$ 18.80	$ 18.73	$ 18.83
Supply Constrained	Malin	2026-2027	$ 19.53	$ 19.73	$ 20.08	$ 20.12	$ 19.40	$ 19.24	$ 19.36	$ 19.45	$ 19.54	$ 19.62	$ 19.56	$ 19.67
Supply Constrained	Malin	2027-2028	$ 20.37	$ 20.55	$ 20.90	$ 20.99	$ 20.22	$ 20.09	$ 20.21	$ 20.31	$ 20.40	$ 20.49	$ 20.43	$ 20.53
Supply Constrained	Malin	2028-2029	$ 21.27	$ 21.45	$ 21.82	$ 21.92	$ 21.13	$ 20.96	$ 21.08	$ 21.18	$ 21.26	$ 21.34	$ 21.25	$ 21.38
Supply Constrained	Malin	2029-2030	$ 21.38	$ 21.38										
Supply Constrained	Rockies	2009-2010	$ 6.69	$ 7.08	$ 7.42	$ 7.50	$ 7.17	$ 6.96	$ 6.95	$ 6.96	$ 7.07	$ 7.14	$ 7.16	$ 7.33
Supply Constrained	Rockies	2010-2011	$ 8.25	$ 8.50	$ 8.54	$ 8.68	$ 8.14	$ 7.85	$ 7.87	$ 7.81	$ 7.91	$ 7.98	$ 7.95	$ 8.13
Supply Constrained	Rockies	2011-2012	$ 8.94	$ 9.12	$ 9.44	$ 9.47	$ 8.98	$ 8.72	$ 8.74	$ 8.66	$ 8.81	$ 8.85	$ 8.79	$ 8.93
Supply Constrained	Rockies	2012-2013	$ 9.68	$ 9.83	$ 10.29	$ 10.35	$ 9.83	$ 9.60	$ 9.66	$ 9.60	$ 9.72	$ 9.79	$ 9.70	$ 9.82
Supply Constrained	Rockies	2013-2014	$ 9.87	$ 9.97	$ 9.88	$ 9.96	$ 9.43	$ 9.35	$ 9.42	$ 9.35	$ 9.45	$ 9.50	$ 9.42	$ 9.52
Supply Constrained	Rockies	2014-2015	$ 11.22	$ 11.35	$ 12.53	$ 12.65	$ 12.03	$ 11.93	$ 12.01	$ 11.93	$ 12.06	$ 12.15	$ 12.02	$ 12.10
Supply Constrained	Rockies	2015-2016	$ 12.79	$ 12.93	$ 13.20	$ 13.27	$ 12.65	$ 12.54	$ 12.64	$ 12.57	$ 12.70	$ 12.76	$ 12.67	$ 12.77
Supply Constrained	Rockies	2016-2017	$ 13.54	$ 13.65	$ 13.81	$ 13.83	$ 13.25	$ 13.17	$ 13.27	$ 13.20	$ 13.34	$ 13.42	$ 13.30	$ 13.42
Supply Constrained	Rockies	2017-2018	$ 14.04	$ 14.17	$ 14.89	$ 14.96	$ 14.38	$ 14.29	$ 14.39	$ 14.32	$ 14.44	$ 14.50	$ 14.42	$ 14.55
Supply Constrained	Rockies	2018-2019	$ 15.23	$ 15.36	$ 15.33	$ 15.40	$ 14.80	$ 14.67	$ 14.78	$ 14.73	$ 14.84	$ 14.90	$ 14.81	$ 14.98
Supply Constrained	Rockies	2019-2020	$ 15.63	$ 15.76	$ 15.77	$ 15.85	$ 15.24	$ 15.13	$ 15.20	$ 15.13	$ 15.27	$ 15.36	$ 15.22	$ 15.40
Supply Constrained	Rockies	2020-2021	$ 16.05	$ 16.18	$ 16.18	$ 16.25	$ 15.67	$ 15.52	$ 15.60	$ 15.54	$ 15.67	$ 15.74	$ 15.63	$ 15.78
Supply Constrained	Rockies	2021-2022	$ 16.45	$ 16.58	$ 16.57	$ 16.64	$ 16.09	$ 15.93	$ 16.02	$ 15.97	$ 16.07	$ 16.15	$ 16.08	$ 16.22
Supply Constrained	Rockies	2022-2023	$ 16.91	$ 17.05	$ 17.04	$ 17.12	$ 16.52	$ 16.35	$ 16.39	$ 16.31	$ 16.50	$ 16.50	$ 16.47	$ 16.66
Supply Constrained	Rockies	2023-2024	$ 17.32	$ 17.47	$ 17.43	$ 17.50	$ 16.88	$ 16.74	$ 16.85	$ 16.79	$ 16.91	$ 16.97	$ 16.92	$ 17.04
Supply Constrained	Rockies	2024-2025	$ 17.73	$ 17.85	$ 17.89	$ 18.02	$ 17.36	$ 17.20	$ 17.32	$ 17.26	$ 17.36	$ 17.43	$ 17.38	$ 17.48
Supply Constrained	Rockies	2025-2026	$ 18.21	$ 18.36	$ 18.68	$ 18.77	$ 18.14	$ 17.96	$ 18.09	$ 17.99	$ 18.10	$ 18.18	$ 18.09	$ 18.23
Supply Constrained	Rockies	2026-2027	$ 18.94	$ 19.12	$ 19.48	$ 19.53	$ 18.89	$ 18.69	$ 18.81	$ 18.74	$ 18.86	$ 18.94	$ 18.86	$ 19.00
Supply Constrained	Rockies	2027-2028	$ 19.69	$ 19.84	$ 20.22	$ 20.30	$ 19.63	$ 19.46	$ 19.59	$ 19.53	$ 19.66	$ 19.73	$ 19.67	$ 19.81
Supply Constrained	Rockies	2028-2029	$ 20.55	$ 20.68	$ 21.07	$ 21.17	$ 20.47	$ 20.30	$ 20.40	$ 20.36	$ 20.50	$ 20.58	$ 20.49	$ 20.66
Supply Constrained	Rockies	2029-2030	$ 20.66	$ 20.66										

Appendix 6.1 - Monthly Price Data by Basin

2009$

Scenario	Index	Gas Year	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
Supply Constrained	Stanfield	2009-2010	$ 6.79	$ 7.21	$ 7.54	$ 7.59	$ 7.32	$ 7.11	$ 7.04	$ 7.20	$ 7.26	$ 7.33	$ 7.31	$ 7.44
Supply Constrained	Stanfield	2010-2011	$ 8.29	$ 8.55	$ 8.59	$ 8.63	$ 8.23	$ 7.95	$ 7.95	$ 8.03	$ 8.07	$ 8.14	$ 8.12	$ 8.24
Supply Constrained	Stanfield	2011-2012	$ 8.96	$ 9.17	$ 9.48	$ 9.50	$ 9.06	$ 8.78	$ 8.79	$ 8.86	$ 8.94	$ 8.99	$ 8.94	$ 9.03
Supply Constrained	Stanfield	2012-2013	$ 9.78	$ 9.97	$ 10.43	$ 10.48	$ 10.01	$ 9.75	$ 9.76	$ 9.86	$ 9.93	$ 10.00	$ 9.91	$ 9.99
Supply Constrained	Stanfield	2013-2014	$ 10.06	$ 10.20	$ 10.11	$ 10.17	$ 9.68	$ 9.54	$ 9.60	$ 9.66	$ 9.70	$ 9.76	$ 9.68	$ 9.77
Supply Constrained	Stanfield	2014-2015	$ 11.48	$ 11.64	$ 12.83	$ 12.93	$ 12.36	$ 12.22	$ 12.29	$ 12.34	$ 12.40	$ 12.51	$ 12.39	$ 12.46
Supply Constrained	Stanfield	2015-2016	$ 13.13	$ 13.29	$ 13.58	$ 13.64	$ 13.07	$ 12.93	$ 13.00	$ 13.06	$ 13.13	$ 13.20	$ 13.12	$ 13.20
Supply Constrained	Stanfield	2016-2017	$ 13.88	$ 14.04	$ 14.19	$ 14.21	$ 13.63	$ 13.48	$ 13.56	$ 13.61	$ 13.70	$ 13.78	$ 13.66	$ 13.77
Supply Constrained	Stanfield	2017-2018	$ 14.43	$ 14.59	$ 15.31	$ 15.37	$ 14.81	$ 14.64	$ 14.70	$ 14.76	$ 14.81	$ 14.88	$ 14.81	$ 14.92
Supply Constrained	Stanfield	2018-2019	$ 15.66	$ 15.82	$ 15.76	$ 15.83	$ 15.22	$ 15.03	$ 15.10	$ 15.17	$ 15.24	$ 15.30	$ 15.22	$ 15.37
Supply Constrained	Stanfield	2019-2020	$ 16.07	$ 16.23	$ 16.22	$ 16.30	$ 15.70	$ 15.51	$ 15.56	$ 15.63	$ 15.73	$ 15.81	$ 15.68	$ 15.84
Supply Constrained	Stanfield	2020-2021	$ 16.56	$ 16.72	$ 16.69	$ 16.77	$ 16.26	$ 16.03	$ 16.11	$ 16.18	$ 16.27	$ 16.34	$ 16.24	$ 16.36
Supply Constrained	Stanfield	2021-2022	$ 17.07	$ 17.25	$ 17.22	$ 17.29	$ 16.73	$ 16.51	$ 16.59	$ 16.66	$ 16.72	$ 16.80	$ 16.73	$ 16.84
Supply Constrained	Stanfield	2022-2023	$ 17.57	$ 17.73	$ 17.73	$ 17.81	$ 17.18	$ 16.95	$ 16.98	$ 17.03	$ 17.16	$ 17.14	$ 17.06	$ 17.22
Supply Constrained	Stanfield	2023-2024	$ 17.86	$ 18.04	$ 17.86	$ 17.87	$ 17.20	$ 17.06	$ 17.15	$ 17.23	$ 17.31	$ 17.38	$ 17.33	$ 17.40
Supply Constrained	Stanfield	2024-2025	$ 18.08	$ 18.23	$ 18.26	$ 18.38	$ 17.68	$ 17.52	$ 17.62	$ 17.69	$ 17.76	$ 17.83	$ 17.78	$ 17.83
Supply Constrained	Stanfield	2025-2026	$ 18.57	$ 18.74	$ 19.07	$ 19.15	$ 18.48	$ 18.32	$ 18.42	$ 18.48	$ 18.54	$ 18.63	$ 18.55	$ 18.66
Supply Constrained	Stanfield	2026-2027	$ 19.36	$ 19.57	$ 19.93	$ 19.97	$ 19.26	$ 19.10	$ 19.21	$ 19.29	$ 19.36	$ 19.45	$ 19.38	$ 19.49
Supply Constrained	Stanfield	2027-2028	$ 20.20	$ 20.38	$ 20.76	$ 20.84	$ 20.09	$ 19.95	$ 20.06	$ 20.15	$ 20.22	$ 20.31	$ 20.26	$ 20.36
Supply Constrained	Stanfield	2028-2029	$ 21.10	$ 21.27	$ 21.67	$ 21.77	$ 20.99	$ 20.82	$ 20.93	$ 21.03	$ 21.09	$ 21.17	$ 21.08	$ 21.21
Supply Constrained	Stanfield	2029-2030	$ 21.21	$ 21.21										
Supply Constrained	Sumas	2009-2010	$ 6.90	$ 7.31	$ 7.65	$ 7.70	$ 7.41	$ 7.07	$ 6.89	$ 7.01	$ 7.07	$ 7.14	$ 7.13	$ 7.37
Supply Constrained	Sumas	2010-2011	$ 8.40	$ 8.67	$ 8.71	$ 8.76	$ 8.33	$ 7.93	$ 7.80	$ 7.87	$ 7.90	$ 7.98	$ 7.97	$ 8.18
Supply Constrained	Sumas	2011-2012	$ 9.05	$ 9.27	$ 9.59	$ 9.63	$ 9.14	$ 8.79	$ 8.68	$ 8.72	$ 8.81	$ 8.85	$ 8.82	$ 8.97
Supply Constrained	Sumas	2012-2013	$ 9.88	$ 10.07	$ 10.54	$ 10.60	$ 10.08	$ 9.75	$ 9.68	$ 9.75	$ 9.82	$ 9.88	$ 9.81	$ 9.91
Supply Constrained	Sumas	2013-2014	$ 10.15	$ 10.29	$ 10.22	$ 10.28	$ 9.75	$ 9.54	$ 9.52	$ 9.56	$ 9.61	$ 9.66	$ 9.60	$ 9.71
Supply Constrained	Sumas	2014-2015	$ 11.56	$ 11.72	$ 12.92	$ 13.03	$ 12.43	$ 12.22	$ 12.22	$ 12.27	$ 12.32	$ 12.43	$ 12.32	$ 12.42
Supply Constrained	Sumas	2015-2016	$ 13.21	$ 13.37	$ 13.67	$ 13.73	$ 13.13	$ 12.92	$ 12.95	$ 13.01	$ 13.06	$ 13.13	$ 13.07	$ 13.18
Supply Constrained	Sumas	2016-2017	$ 13.97	$ 14.13	$ 14.28	$ 14.30	$ 13.68	$ 13.48	$ 13.50	$ 13.54	$ 13.63	$ 13.70	$ 13.60	$ 13.74
Supply Constrained	Sumas	2017-2018	$ 14.52	$ 14.68	$ 15.40	$ 15.47	$ 14.87	$ 14.63	$ 14.63	$ 14.69	$ 14.74	$ 14.81	$ 14.75	$ 14.88
Supply Constrained	Sumas	2018-2019	$ 15.75	$ 15.91	$ 15.88	$ 15.95	$ 15.28	$ 15.03	$ 15.05	$ 15.11	$ 15.17	$ 15.23	$ 15.16	$ 15.34
Supply Constrained	Sumas	2019-2020	$ 16.16	$ 16.32	$ 16.34	$ 16.42	$ 15.76	$ 15.51	$ 15.51	$ 15.57	$ 15.66	$ 15.74	$ 15.64	$ 15.81
Supply Constrained	Sumas	2020-2021	$ 16.65	$ 16.81	$ 16.82	$ 16.90	$ 16.33	$ 16.03	$ 16.08	$ 16.13	$ 16.22	$ 16.28	$ 16.21	$ 16.36
Supply Constrained	Sumas	2021-2022	$ 17.17	$ 17.34	$ 17.36	$ 17.44	$ 16.79	$ 16.51	$ 16.55	$ 16.62	$ 16.66	$ 16.74	$ 16.70	$ 16.84
Supply Constrained	Sumas	2022-2023	$ 17.66	$ 17.82	$ 17.85	$ 17.93	$ 17.25	$ 16.96	$ 16.97	$ 17.01	$ 17.12	$ 17.07	$ 17.00	$ 17.16
Supply Constrained	Sumas	2023-2024	$ 17.96	$ 18.16	$ 18.02	$ 18.01	$ 17.24	$ 16.99	$ 17.02	$ 17.08	$ 17.14	$ 17.21	$ 17.17	$ 17.26
Supply Constrained	Sumas	2024-2025	$ 18.21	$ 18.36	$ 18.40	$ 18.52	$ 17.73	$ 17.46	$ 17.50	$ 17.56	$ 17.60	$ 17.67	$ 17.63	$ 17.72
Supply Constrained	Sumas	2025-2026	$ 18.72	$ 18.89	$ 19.22	$ 19.30	$ 18.51	$ 18.26	$ 18.29	$ 18.34	$ 18.39	$ 18.47	$ 18.41	$ 18.55
Supply Constrained	Sumas	2026-2027	$ 19.50	$ 19.70	$ 20.08	$ 20.12	$ 19.25	$ 19.04	$ 19.09	$ 19.07	$ 19.14	$ 19.22	$ 19.24	$ 19.37
Supply Constrained	Sumas	2027-2028	$ 20.33	$ 20.51	$ 20.91	$ 20.99	$ 20.08	$ 19.90	$ 19.94	$ 19.93	$ 20.01	$ 20.10	$ 20.13	$ 20.24
Supply Constrained	Sumas	2028-2029	$ 21.24	$ 21.41	$ 21.83	$ 21.92	$ 21.04	$ 20.78	$ 20.81	$ 20.83	$ 20.88	$ 20.96	$ 20.96	$ 21.11
Supply Constrained	Sumas	2029-2030	$ 21.11	$ 21.11										

APPENDIX 6.2

GENERAL ASSUMPTIONS

Appendix 6.2 - GDP Assumption

General Inflation (GDP) 1/

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Inflation	0.86	0.82	1.28	1.35	1.87	2.16	2.12	2.08	2.04	2.02	1.95

Year	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Inflation	1.95	1.89	1.91	1.91	1.88	1.82	1.83	1.85	1.88	1.85	1.89

1/ Global Insight's Review of the U.S. Economy First Quarter 2009

Appendix 6.2 - Weighted Average Cost of Capital

OREGON
AVISTA CORPORATION
Capital Structure and Overall Rate of Return

Cost of Capital as of March 31, 2009	Amount	Percent of Total Capital	Cost	Component
L/T Debt		45.00%	6.40%	2.88%
Trust Preferred Securities		5.00%	6.57%	0.33%
Common Equity		50.00%	10.00%	5.00%
TOTAL		100.00%		8.21%

WASHINGTON
AVISTA CORPORATION
Capital Structure and Overall Rate of Return

Agreed-upon Cost of Capital		Percent of Total Capital	Cost	Component
L/T Debt		52.06%	6.84%	3.56%
Trust Preferred Securities				0.00%
Common Equity		47.94%	10.20%	4.89%
TOTAL		100.00%		8.45%

IDAHO
AVISTA CORPORATION
Capital Structure and Overall Rate of Return

Agreed-upon Cost of Capital	Amount	Percent of Total Capital	Cost	Component
L/T Debt (1)		53.70%	6.51%	3.50%
Trust Preferred Securities				0.00%
Preferred Stock				0.00%
Common Equity		46.30%	10.20%	4.72%
TOTAL		100.00%		8.22%
System Weighted Average Cost of Capital*				8.32%
GDP price deflator 2009				1.79%
Real WACC				6.42%
Tax rate				35%
Real after tax WACC				**4.17%**

*Weighting based on net rate base as of 4/30/09

Authorized Rates of Return

Washington Electric
General Case Settlement in 2008 (UE-080416)

effective 1/1/2009

Component	Capital Structure	ProForma Cost	ProForma Weighted Cost
L/T Debt [1]	53.70%	6.51%	3.50%
Pref Trust			0.00%
Common	46.30%	10.20%	4.72%
Total	100.00%		8.22%

(1) includes short-term debt

Washington Gas
General Case Settlement in 2008 (UG-080417)

effective 1/1/2009

Component	Capital Structure	ProForma Cost	ProForma Weighted Cost
L/T Debt [1]	53.70%	6.51%	3.50%
Pref Trust			0.00%
Common	46.30%	10.20%	4.72%
Total	100.00%		8.22%

(1) includes short-term debt

Idaho Electric
Case Decided in 2008-AVU-E-08-01

effective 10/1/2008

Component	Capital Structure	ProForma Cost	ProForma Weighted Cost
L/T Debt	52.06%	6.84%	3.56%
Pref Trust			0.00%
Pref Stock			0.00%
Common	47.94%	10.20%	4.89%
Total	100.00%		8.45%

(excludes short-term debt)

Idaho Gas
Case Decided in 2008-AVU-G-08-01

effective 10/1/2008

Component	Capital Structure	ProForma Cost	ProForma Weighted Cost
L/T Debt	52.06%	6.84%	3.56%
Pref Trust			0.00%
Pref Stock			0.00%
Common	47.94%	10.20%	4.89%
Total	100.00%		8.45%

(excludes short-term debt)

Oregon Gas
General Case Settlement in 2007 (UG-181)

effective 4/1/2008

Component	Capital Structure	ProForma Cost	ProForma Weighted Cost
L/T Debt	45.00%	6.40%	2.88%
Pref Trust	5.00%	6.57%	0.33%
Common	50.00%	10.00%	5.00%
Total	100.00%		8.21%

(excludes short-term debt)

ESCALATION/INFLATION FORECASTS

Implicit Price Deflators — U. S. Average 3/31/2009
Source: Randy Barcus, Finance--Analysis, Budget & Forecasting
Discount Rate: Levelizing is Not Applicable to Escalation Rates

Year	E1 Gross Domestic Product (% change)	E2 Personal Consumption Expenditures (% change)	E3 Power Equipment Investment (% change)	E4 Consumer Price Index-Urban (% change)
1996	1.9	2.2	1.6	2.9
1997	1.7	1.7	2.1	2.3
1998	1.1	0.9	1.9	1.5
1999	1.4	1.7	1.6	2.2
2000	2.2	2.5	4.1	3.4
2001	2.4	2.1	2.8	2.8
2002	1.7	1.4	2.7	1.6
2003	2.1	2.0	2.3	2.3
2004	2.9	2.6	8.4	2.7
2005	3.3	2.9	9.4	3.4
2006	3.2	2.8	6.1	3.2
2007	2.7	2.6	5.0	2.9
2008	2.2	3.3	7.7	3.8
2009	0.9	-1.0	1.6	-1.9
2010	0.8	1.4	-1.8	1.7
2011	1.3	1.8	1.6	2.2
2012	1.4	1.7	2.3	2.3
2013	1.9	2.2	3.2	2.6
2014	2.2	2.1	3.5	2.4
2015	2.1	2.1	3.2	2.4
2016	2.1	2.1	3.0	2.5
2017	2.0	2.1	3.0	2.4
2018	2.0	2.1	3.0	2.4
2019	2.0	2.0	2.8	2.3
2020	2.0	1.9	2.8	2.1
2021	1.9	1.7	2.8	1.7
2022	1.9	1.8	2.6	2.0
2023	1.9	1.9	2.7	2.2
2024	1.9	1.9	2.7	2.1
2025	1.8	1.8	2.6	2.1
2026	1.8	1.9	2.6	2.1
2027	1.8	1.9	2.7	2.1
2028	1.9	1.9	2.7	2.2
2029	1.9	1.9	2.7	2.1
2030	1.9	1.9	2.7	2.2
2031	1.9	1.9	2.8	2.2
2032	1.9	1.9	2.8	2.2
2033	1.8	1.9	2.7	2.2
2034	1.8	1.9	2.7	2.2
2035	1.8	1.9	2.7	2.2
2036	1.8	1.9	2.7	2.2
2037	1.9	1.9	2.8	2.2
2038	1.9	2.0	2.8	2.2
2008-2038 Avg.	1.8	1.9	2.7	2.1
5 Year Avg.	1.3	1.4	2.3	1.6
10 Year Avg.	1.7	1.8	2.7	2.0
20 Year Avg.	1.8	1.8	2.7	2.1
25 Year Avg.	1.8	1.9	2.7	2.1
30 Year Avg.	1.8	1.9	2.7	2.1
Std. Dev.	1.0	1.0	1.5	1.0
	0.5	0.6	1.8	0.8

E1 Applies to inflation of all good & services produced & consumed in the U.S.
E2 Applies to inflation of goods & services consumed by individuals.
E3 Applies to inflation of non-residential power equipment
E4 For all urban consumers, applies to inflation of a fixed market basket of typical goods & services.

Reference: Global Insight's Review of the U.S. Economy First Quarter 2009

COST OF CAPITAL

Source: Paul Kimball, Treasury Department 4/10/2009

Projected Long-Term Cost of Capital -- Avista Utilities for Net Present Value Analysis

	Target Capital Structure	Component Cost	Net Present Value
Debt	50%	7.60%	3.80%
Common Equity	50%	11.25%	5.63%
Weighted Cost of Capital			9.43%

Authorized Cost of Capital -- Avista Utilities for Revenue Requirements Analysis Washington Elec/Gas Decided 2008

	Authorized Capital Structure	Component Cost	Component Return
Debt	53.70%	6.51%	3.50%
Common Equity	46.30%	10.20%	4.72%
Rate of Return			8.22%

Authorized Cost of Capital -- Avista Utilities for Revenue Requirements Analysis Idaho Elec/Gas Decided 2008 AVU-08-1

	Authorized Capital Structure	Component Cost	Component Return
Debt	52.06%	6.84%	3.56%
Common Equity	47.94%	10.20%	4.89%
Rate of Return			8.45%

APPENDIX 6.3

SUPPLY SIDE RESOURCE OPTIONS

Appendix 6.3 - Supply Side Resource Additions Available to SENDOUT®

Additional Resources	Jurisdiction	Size	Cost/Rates	Availability	Notes
Pipeline					
Capacity Release Recalls	WA/ID	20,000 Dth/d	NWPL fixed rate	2018	Recall previously released capacity
GTN Capacity	WA/ID	30,000 Dth/d	GTN rate	2010	Currently available unsubscribed capacity
GTN Capacity	OR	25,000 Dth/d	GTN rate	2010	Currently available unsubscribed capacity; requires expansion of Medford Lateral
GTN Medford Lateral Expansion	OR	25,000 Dth/d	GTN rate	2011	Additional compression to allow more gas to flow from GTN mailine to the lateral
NWP Expansion	WA/ID	50,000 Dth/d	NWPL fixed rate x 3	2013	Transport expansion from Sumas/JP to WA/ID
NWP Expansion	OR	50,000 Dth/d	NWPL fixed rate x 5	2013	Transport expansion from Sumas/JP to Oregon
Klamath Falls Lateral Capacity	OR	up to 6000 Dth/d	NWPL fixed rate	2009	Currently available unsubscribed capacity
Klamath Falls Lateral Purchase	OR	20,000 Dth/d	$2.5 million capital cost	November 2010	Agreement with NWPL to purchase the Klamath Falls lateral at net book value. Can be done with less than 1 years notice.
Statellite LNG					
WA/ID Satellite LNG	WA/ID	90,000 capacity; 30,000 delivery for 3 days	$44 million capital cost $1 million annual O&M	November 2015	
Medford/Roseburg Satellite LNG	OR	45,000 capacity; 15,000 delivery for 3 days	$22 million capital cost $850,000 annual O&M	November 2015	
Klamath Falls Satellite LNG	OR	45,000 capacity; 15,000 delivery for 3 days	$22 million capital cost $850,000 annual O&M	November 2015	
La Grande Satellite LNG	OR	45,000 capacity; 15,000 delivery for 3 days	$22 million capital cost $850,000 annual O&M	November 2015	
Company Owned Liquifaction LNG					
WA/ID	WA	600 MMcf capacity; 150,000 delivery for 4 days	$75 million capital cost, $2 million annual O&M	November 2017	
Import LNG					
Jordan Cove LNG to Medford	OR	7,500 Dth/d	Malin pricing less fuel	November 2012	
Transport from LNG Terminal	OR	7,500 Dth/d	Precedent agreement rate	November 2012	
Jordan Cove LNG to Malin	OR	7,500 Dth/d	Malin pricing less fuel	November 2012	
Transport from LNG Terminal	OR	7,500 Dth/d	Precedent agreement rate	November 2012	
Bradwood Landing LNG	OR	25,000 Dth/d	Malin pricing less fuel	November 2012	
Transport from LNG Terminal	OR	25,000 Dth/d	Precedent agreement rate	November 2012	
Other Resources Considered					
Citygate deliveries	WA/ID/OR				Represents the ability to buy a delivered product fron another utility or marketer. Limited counterparties to structure transaction
Malin Backhaul	OR		GTN rate	2010	Back haul capacity is provided by displacement and is available up to the amount of scheduled forward-haul capacity through a specific point. Also requires expansion of the Medford Lateral to facilitate delivery. Not firm especially long term
Inground Storage					
California					Dependent on GTN backhaul or convert to bidirectional pipeline
JP Expansion					Dependent on NWP Expansion or other Tport arrangements back to service territory
Mist					Dependent on NWP Expansion or other Tport arrangements back to service territory; Long term subscription may not be available

Appendix 6.3 - Supply Side Resource Additions Available to SENDOUT® by Jurisdiction
Expected Case

Additional Resources	Jurisdiction	Size	Cost/Rates	Availability	Notes
Pipeline					
Capacity Release Recalls	WA/ID	20,000 Dth/d	NWPL fixed rate	2018	Recall previously released capacity
GTN Capacity	WA/ID	40,000 Dth/d	GTN rate	2010	Currently available unsubscribed capacity
NWP Expansion	WA/ID	50,000 Dth/d	NWPL fixed rate x 3	2013	Transport expansion from Sumas/JP to WA/ID
Statellite LNG					
WA/ID Satellite LNG	WA/ID	90,000 capacity; 30,000 delivery for 3 days	$44 million capital cost $1 million	November 2015	
Company Owned Liquifaction LNG					
WA/ID	WA/ID	600 MMcf capacity; 150,000 delivery for 4 days	$75 million capital cost, $2 million	November 2017	
Other Resources Considered					
Citygate deliveries	WA/ID				Represents the ability to buy a delivered product fron another utility or marketer. Limited counterparties to structure transaction

Additional Resources	Jurisdiction	Size	Cost/Rates	Availability	Notes
Pipeline					
GTN Capacity	Medford/Roseburg	25,000 Dth/d	GTN rate	2010	Currently available unsubscribed capacity; requires expansion of Medford Lateral
GTN Medford Lateral Expansion	Medford/Roseburg	25,000 Dth/d	GTN rate	2011	Additional compression to allow more gas to flow from GTN mailine to the lateral
NWP Expansion	Medford/Roseburg	50,000 Dth/d	NWPL fixed rate x 5	2013	Transport expansion from Sumas/JP to Oregon
Statellite LNG					
Medford/Roseburg Satellite LNG	Medford/Roseburg	45,000 capacity; 15,000 delivery for 3 days	$22 million capital cost $850,000	November 2015	
Other Resources Considered					
Citygate deliveries	Medford/Roseburg				Represents the ability to buy a delivered product fron another utility or marketer. Limited counterparties to structure transaction
Malin Backhaul	Medford/Roseburg		GTN rate	2010	Back haul capacity is provided by displacement and is available up to the amount of scheduled forward-haul capacity through a specific point. Also requires expansion of the Medford Lateral to facilitate delivery. Not firm especially long term

Additional Resources	Jurisdiction	Size	Cost/Rates	Availability	Notes
Pipeline					
Klamath Falls Lateral Capacity	Klamath Falls	up to 6000 Dth/d	NWPL fixed rate	2009	Currently available unsubscribed capacity
Klamath Falls Lateral Purchase	Klamath Falls	20,000 Dth/d	$2.6 million capital cost	November 2010	Agreement with NWPL to purchase the Klamath Falls lateral at net book value. Can be done with less than 1 years notice.
Statellite LNG					
Klamath Falls Satellite LNG	Klamath Falls	45,000 capacity; 15,000 delivery for 3 days	$22 million capital cost $850,000	November 2015	
Other Resources Considered					
Citygate deliveries	Klamath Falls				Represents the ability to buy a delivered product fron another utility or marketer. Limited counterparties to structure transaction

Additional Resources	Jurisdiction	Size	Cost/Rates	Availability	Notes
Statellite LNG					
La Grande Satellite LNG	La Grande	45,000 capacity; 15,000 delivery for 3 days	$22 million capital cost $850,000	November 2015	
Other Resources Considered					
Citygate deliveries	La Grande				Represents the ability to buy a delivered product fron another utility or marketer. Limited counterparties to structure transaction

Appendix 6.3 - Supply Side Resource Additions Available to SENDOUT® by Jurisdiction
High Case

Additional Resources	Jurisdiction	Size	Cost/Rates	Availability	Notes
Pipeline					
Capacity Release Recalls	WA/ID	20,000 Dth/d	NWPL fixed rate	2018	Recall previously released capacity
GTN Capacity	WA/ID	100,000 Dth/d	GTN rate	2010	Currently available unsubscribed capacity
NWP Expansion	WA/ID	50,000 Dth/d	NWPL fixed rate x 3	2013	Transport expansion from Sumas/JP to WA/ID
Statellite LNG					
WA/ID Satellite LNG	WA/ID	90,000 capacity; 30,000 delivery for 3 days	$44 million capital cost $1 million	November 2015	
Company Owned Liquifaction LNG					
WA/ID	WA/ID	600 MMcf capacity; 150,000 delivery for 4 days	$75 million capital cost, $2 million	November 2017	
Other Resources Considered					
Citygate deliveries	WA/ID				Represents the ability to buy a delivered product fron another utility or marketer. Limited counterparties to structure transaction

Additional Resources	Jurisdiction	Size	Cost/Rates	Availability	Notes
Pipeline					
GTN Capacity	Medford/Roseburg	50,000 Dth/d	GTN rate	2010	Currently available unsubscribed capacity; requires expansion of Medford Lateral
GTN Medford Lateral Expansion	Medford/Roseburg	50,000 Dth/d	GTN rate	2011	Additional compression to allow more gas to flow from GTN mailine to the lateral
NWP Expansion	Medford/Roseburg	50,000 Dth/d	NWPL fixed rate x 5	2013	Transport expansion from Sumas/JP to Oregon
Statellite LNG					
Medford/Roseburg Satellite LNG	Medford/Roseburg	45,000 capacity; 15,000 delivery for 3 days	$22 million capital cost $850,000	November 2015	
Other Resources Considered					
Citygate deliveries	Medford/Roseburg				Represents the ability to buy a delivered product fron another utility or marketer. Limited counterparties to structure transaction
Malin Backhaul	Medford/Roseburg		GTN rate	2010	Back haul capacity is provided by displacement and is available up to the amount of scheduled forward-haul capacity through a specific point. Also requires expansion of the Medford Lateral to facilitate delivery. Not firm especially long term

Additional Resources	Jurisdiction	Size	Cost/Rates	Availability	Notes
Pipeline					
Klamath Falls Lateral Capacity	Klamath Falls	up to 6000 Dth/d	NWPL fixed rate	2009	Currently available unsubscribed capacity
Klamath Falls Lateral Purchase	Klamath Falls	20,000 Dth/d	$2.6 million capital cost	November 2010	Agreement with NWPL to purchase the Klamath Falls lateral at net book value. Can be done with less than 1 years notice.
Statellite LNG					
Klamath Falls Satellite LNG	Klamath Falls	45,000 capacity; 15,000 delivery for 3 days	$22 million capital cost $850,000	November 2015	
Other Resources Considered					
Citygate deliveries	Klamath Falls				Represents the ability to buy a delivered product fron another utility or marketer. Limited counterparties to structure transaction

Additional Resources	Jurisdiction	Size	Cost/Rates	Availability	Notes
Statellite LNG					
La Grande Satellite LNG	La Grande	45,000 capacity; 15,000 delivery for 3 days	$22 million capital cost $850,000	November 2015	
Other Resources Considered					
Citygate deliveries	La Grande				Represents the ability to buy a delivered product fron another utility or marketer. Limited counterparties to structure transaction

APPENDIX 6.4

AVOIDED COST DETAIL

Appendix 6.4

Annual Avoided Costs 1/

2009$

Scenario	Gas Year	Klam Falls	La Grande	Medford GTN	Medford NWP	Roseburg	Wa/Id Both	Wa/Id GTN	Wa/Id NWP	WA/ID Annual	OR Annual
Expected	2009-2010	$ 4.98	$ 4.94	$ 5.23	$ 5.23	$ 5.23	$ 4.90	$ 4.91	$ 4.95	$ 4.92	$ 5.12
Expected	2010-2011	$ 5.42	$ 5.39	$ 5.53	$ 5.53	$ 5.53	$ 5.33	$ 5.33	$ 5.39	$ 5.35	$ 5.48
Expected	2011-2012	$ 5.54	$ 5.50	$ 5.64	$ 5.64	$ 5.64	$ 5.45	$ 5.45	$ 5.49	$ 5.46	$ 5.59
Expected	2012-2013	$ 5.85	$ 5.79	$ 5.96	$ 5.96	$ 5.96	$ 5.77	$ 5.77	$ 5.79	$ 5.78	$ 5.90
Expected	2013-2014	$ 5.25	$ 5.19	$ 5.37	$ 5.37	$ 5.37	$ 5.17	$ 5.17	$ 5.19	$ 5.18	$ 5.31
Expected	2014-2015	$ 7.32	$ 7.27	$ 7.46	$ 7.46	$ 7.46	$ 7.25	$ 7.26	$ 7.28	$ 7.26	$ 7.40
Expected	2015-2016	$ 8.40	$ 8.34	$ 8.55	$ 8.55	$ 8.55	$ 8.32	$ 8.33	$ 8.34	$ 8.33	$ 8.48
Expected	2016-2017	$ 9.05	$ 8.99	$ 9.23	$ 9.23	$ 9.23	$ 8.96	$ 8.97	$ 8.99	$ 8.97	$ 9.15
Expected	2017-2018	$ 10.11	$ 10.05	$ 10.31	$ 10.31	$ 10.31	$ 10.03	$ 10.03	$ 10.06	$ 10.04	$ 10.22
Expected	2018-2019	$ 10.72	$ 10.66	$ 10.95	$ 10.95	$ 10.95	$ 10.64	$ 10.66	$ 10.66	$ 10.66	$ 10.85
Expected	2019-2020	$ 10.95	$ 10.89	$ 11.21	$ 11.21	$ 11.21	$ 10.87	$ 10.88	$ 10.90	$ 10.88	$ 11.10
Expected	2020-2021	$ 10.96	$ 10.91	$ 11.25	$ 11.25	$ 11.25	$ 10.88	$ 10.89	$ 10.92	$ 10.90	$ 11.12
Expected	2021-2022	$ 11.01	$ 10.96	$ 11.32	$ 11.32	$ 11.32	$ 10.94	$ 10.95	$ 10.96	$ 10.95	$ 11.19
Expected	2022-2023	$ 11.21	$ 11.18	$ 11.58	$ 11.58	$ 11.58	$ 11.16	$ 11.16	$ 11.19	$ 11.17	$ 11.43
Expected	2023-2024	$ 11.11	$ 11.10	$ 11.49	$ 11.49	$ 11.49	$ 11.05	$ 11.05	$ 11.10	$ 11.06	$ 11.34
Expected	2024-2025	$ 11.23	$ 11.21	$ 11.67	$ 11.67	$ 11.67	$ 11.16	$ 11.17	$ 11.21	$ 11.18	$ 11.49
Expected	2025-2026	$ 11.42	$ 11.40	$ 11.91	$ 11.91	$ 11.91	$ 11.35	$ 11.35	$ 11.40	$ 11.37	$ 11.71
Expected	2026-2027	$ 11.69	$ 11.68	$ 12.20	$ 12.20	$ 12.20	$ 11.61	$ 11.62	$ 11.69	$ 11.64	$ 12.00
Expected	2027-2028	$ 11.87	$ 11.86	$ 12.44	$ 12.44	$ 12.44	$ 11.79	$ 11.80	$ 11.87	$ 11.82	$ 12.21
Expected	2028-2029	$ 12.08	$ 12.75	$ 12.04	$ 12.04	$ 12.04	$ 12.00	$ 12.00	$ 12.08	$ 12.02	$ 12.19

Winter Avoided Costs 1/

2009$

Scenario	Gas Year	Klam Falls	La Grande	Medford GTN	Medford NWP	Roseburg	Wa/Id Both	Wa/Id GTN	Wa/Id NWP	WA/ID Winter	OR Winter
Expected	2009-2010	$ 4.99	$ 4.97	$ 5.67	$ 5.67	$ 5.67	$ 4.92	$ 4.93	$ 4.96	$ 4.94	$ 5.39
Expected	2010-2011	$ 5.67	$ 5.65	$ 5.98	$ 5.98	$ 5.98	$ 5.58	$ 5.58	$ 5.63	$ 5.60	$ 5.85
Expected	2011-2012	$ 5.77	$ 5.74	$ 6.07	$ 6.07	$ 6.07	$ 5.67	$ 5.68	$ 5.71	$ 5.69	$ 5.94
Expected	2012-2013	$ 6.04	$ 5.98	$ 6.38	$ 6.38	$ 6.38	$ 5.96	$ 5.96	$ 5.99	$ 5.98	$ 6.23
Expected	2013-2014	$ 5.33	$ 5.27	$ 5.71	$ 5.71	$ 5.71	$ 5.25	$ 5.25	$ 5.27	$ 5.26	$ 5.55
Expected	2014-2015	$ 7.14	$ 7.11	$ 7.56	$ 7.56	$ 7.56	$ 7.08	$ 7.09	$ 7.12	$ 7.10	$ 7.38
Expected	2015-2016	$ 8.36	$ 8.31	$ 8.81	$ 8.81	$ 8.81	$ 8.29	$ 8.29	$ 8.31	$ 8.30	$ 8.62
Expected	2016-2017	$ 9.16	$ 9.09	$ 9.67	$ 9.67	$ 9.67	$ 9.08	$ 9.08	$ 9.10	$ 9.09	$ 9.45
Expected	2017-2018	$ 10.11	$ 10.07	$ 10.68	$ 10.68	$ 10.68	$ 10.06	$ 10.07	$ 10.08	$ 10.07	$ 10.44
Expected	2018-2019	$ 10.90	$ 10.85	$ 11.53	$ 11.53	$ 11.53	$ 10.84	$ 10.86	$ 10.85	$ 10.85	$ 11.27
Expected	2019-2020	$ 11.23	$ 11.18	$ 11.91	$ 11.91	$ 11.91	$ 11.17	$ 11.18	$ 11.18	$ 11.18	$ 11.62
Expected	2020-2021	$ 11.17	$ 11.13	$ 11.91	$ 11.91	$ 11.91	$ 11.10	$ 11.13	$ 11.13	$ 11.12	$ 11.61
Expected	2021-2022	$ 11.21	$ 11.18	$ 12.03	$ 12.03	$ 12.03	$ 11.16	$ 11.18	$ 11.18	$ 11.17	$ 11.69
Expected	2022-2023	$ 11.46	$ 11.44	$ 12.37	$ 12.37	$ 12.37	$ 11.42	$ 11.44	$ 11.45	$ 11.44	$ 12.00
Expected	2023-2024	$ 11.36	$ 11.47	$ 12.36	$ 12.36	$ 12.36	$ 11.41	$ 11.42	$ 11.47	$ 11.43	$ 11.98
Expected	2024-2025	$ 11.46	$ 11.55	$ 12.55	$ 12.55	$ 12.55	$ 11.49	$ 11.49	$ 11.56	$ 11.52	$ 12.14
Expected	2025-2026	$ 11.61	$ 11.72	$ 12.82	$ 12.82	$ 12.82	$ 11.64	$ 11.65	$ 11.73	$ 11.67	$ 12.36
Expected	2026-2027	$ 11.85	$ 11.96	$ 13.19	$ 13.19	$ 13.19	$ 11.88	$ 11.89	$ 11.98	$ 11.92	$ 12.68
Expected	2027-2028	$ 12.02	$ 12.13	$ 13.48	$ 13.48	$ 13.48	$ 12.05	$ 12.05	$ 12.15	$ 12.08	$ 12.92
Expected	2028-2029	$ 12.28	$ 14.02	$ 12.27	$ 12.27	$ 12.27	$ 12.29	$ 12.29	$ 12.40	$ 12.33	$ 12.62

1/ Avoided costs are before Environmental Externalities adder.

Appendix 6.4

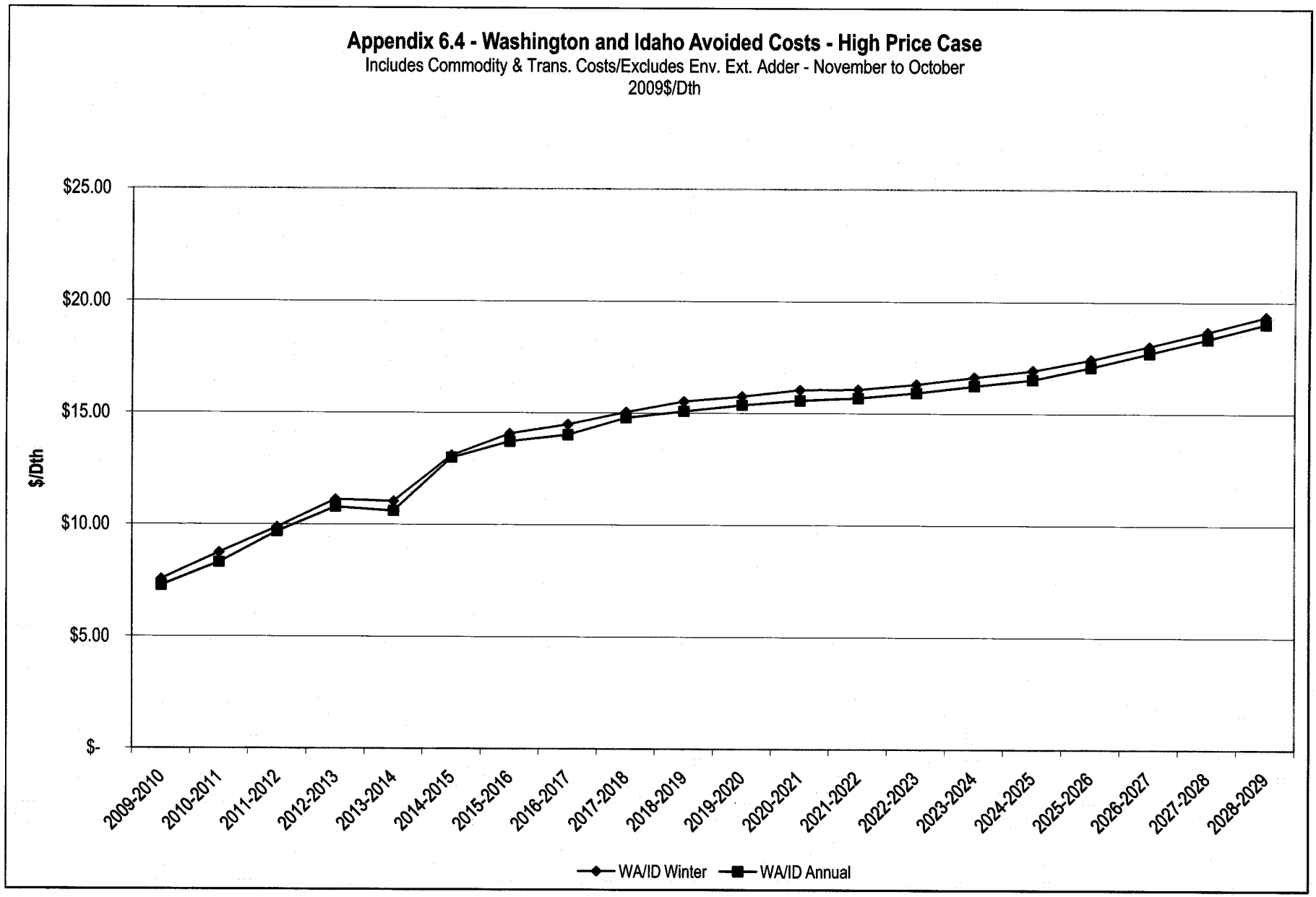
Annual Avoided Costs 1/
2009$

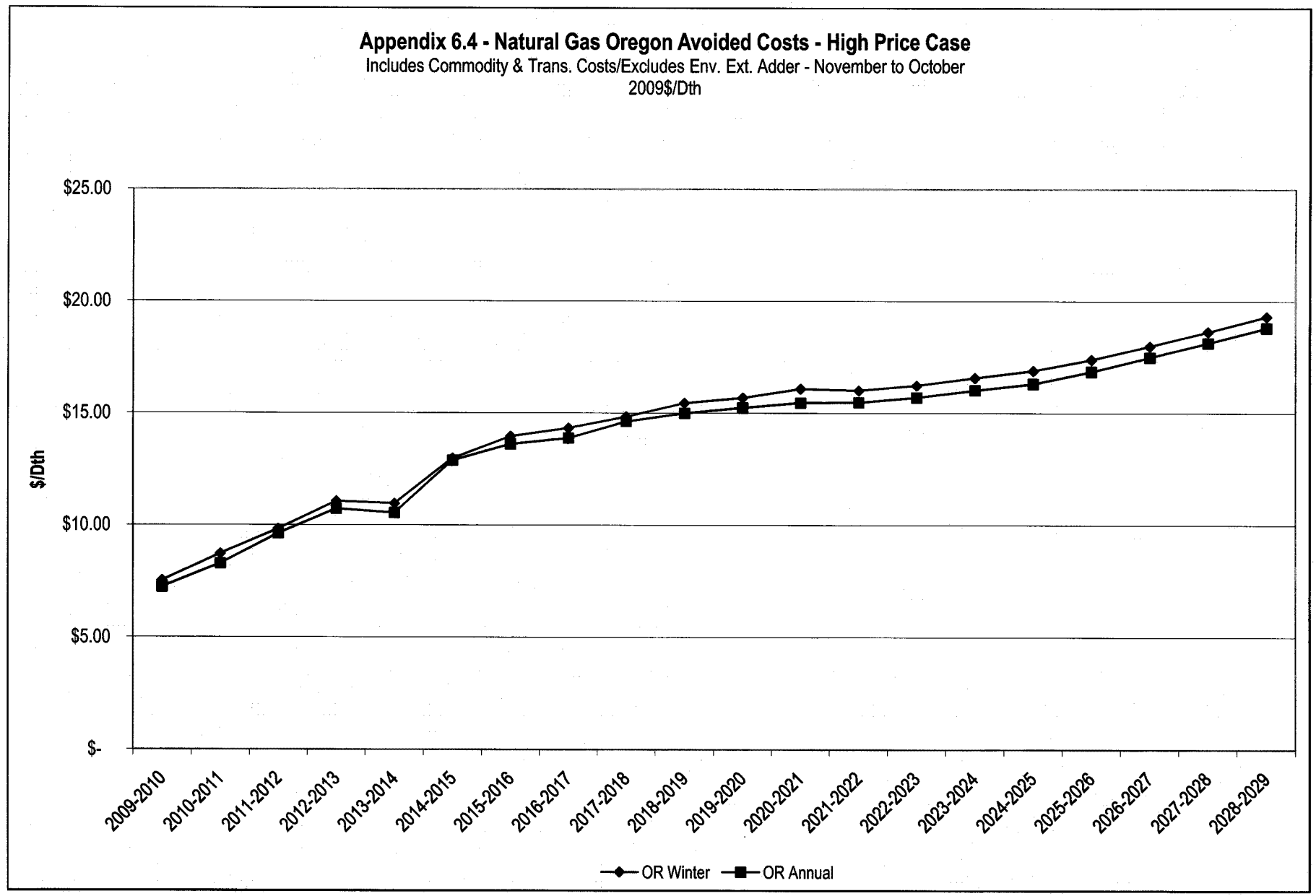
Scenario	Gas Year	Klam Falls	La Grande	Medford GTN	Medford NWP	Roseburg	Wa/Id Both	Wa/Id GTN	Wa/Id NWP	WA/ID Annual	OR Annual
Low Growth	2009-2010	$ 7.25	$ 7.23	$ 7.21	$ 7.21	$ 7.21	$ 7.23	$ 7.32	$ 7.23	$ 7.26	$ 7.22
Low Growth	2010-2011	$ 8.28	$ 8.30	$ 8.26	$ 8.26	$ 8.26	$ 8.28	$ 8.30	$ 8.30	$ 8.30	$ 8.27
Low Growth	2011-2012	$ 9.59	$ 9.71	$ 9.59	$ 9.59	$ 9.59	$ 9.66	$ 9.64	$ 9.73	$ 9.68	$ 9.62
Low Growth	2012-2013	$ 10.70	$ 10.79	$ 10.70	$ 10.70	$ 10.70	$ 10.76	$ 10.80	$ 10.79	$ 10.78	$ 10.72
Low Growth	2013-2014	$ 10.55	$ 10.57	$ 10.52	$ 10.52	$ 10.52	$ 10.56	$ 10.67	$ 10.57	$ 10.60	$ 10.53
Low Growth	2014-2015	$ 12.87	$ 12.97	$ 12.86	$ 12.86	$ 12.86	$ 12.96	$ 13.04	$ 12.97	$ 12.99	$ 12.88
Low Growth	2015-2016	$ 13.62	$ 13.69	$ 13.58	$ 13.58	$ 13.58	$ 13.69	$ 13.79	$ 13.69	$ 13.72	$ 13.61
Low Growth	2016-2017	$ 13.85	$ 13.99	$ 13.85	$ 13.85	$ 13.85	$ 13.98	$ 14.09	$ 13.99	$ 14.02	$ 13.88
Low Growth	2017-2018	$ 14.59	$ 14.77	$ 14.59	$ 14.59	$ 14.59	$ 14.76	$ 14.84	$ 14.77	$ 14.79	$ 14.63
Low Growth	2018-2019	$ 14.98	$ 15.06	$ 14.98	$ 14.98	$ 14.98	$ 15.05	$ 15.15	$ 15.06	$ 15.09	$ 14.99
Low Growth	2019-2020	$ 15.21	$ 15.37	$ 15.21	$ 15.21	$ 15.21	$ 15.33	$ 15.40	$ 15.36	$ 15.36	$ 15.24
Low Growth	2020-2021	$ 15.42	$ 15.60	$ 15.42	$ 15.42	$ 15.42	$ 15.56	$ 15.57	$ 15.60	$ 15.58	$ 15.45
Low Growth	2021-2022	$ 15.41	$ 15.74	$ 15.41	$ 15.41	$ 15.41	$ 15.65	$ 15.64	$ 15.78	$ 15.69	$ 15.48
Low Growth	2022-2023	$ 15.62	$ 16.03	$ 15.62	$ 15.62	$ 15.62	$ 15.87	$ 15.86	$ 16.06	$ 15.93	$ 15.70
Low Growth	2023-2024	$ 15.94	$ 16.36	$ 15.94	$ 15.94	$ 15.94	$ 16.18	$ 16.16	$ 16.38	$ 16.24	$ 16.02
Low Growth	2024-2025	$ 16.22	$ 16.64	$ 16.22	$ 16.22	$ 16.22	$ 16.46	$ 16.44	$ 16.65	$ 16.52	$ 16.30
Low Growth	2025-2026	$ 16.76	$ 17.20	$ 16.76	$ 16.76	$ 16.76	$ 17.02	$ 16.99	$ 17.22	$ 17.08	$ 16.85
Low Growth	2026-2027	$ 17.40	$ 17.84	$ 17.40	$ 17.40	$ 17.40	$ 17.65	$ 17.62	$ 17.85	$ 17.70	$ 17.49
Low Growth	2027-2028	$ 18.04	$ 18.49	$ 18.05	$ 18.05	$ 18.05	$ 18.30	$ 18.27	$ 18.50	$ 18.35	$ 18.14
Low Growth	2028-2029	$ 18.71	$ 19.17	$ 18.72	$ 18.72	$ 18.72	$ 18.98	$ 18.95	$ 19.18	$ 19.03	$ 18.81

Winter Avoided Costs 1/
2009$

Scenario	Gas Year	Klam Falls	La Grande	Medford GTN	Medford NWP	Roseburg	Wa/Id Both	Wa/Id GTN	Wa/Id NWP	WA/ID Winter	OR Winter
Low Growth	2009-2010	$ 7.51	$ 7.55	$ 7.51	$ 7.51	$ 7.51	$ 7.55	$ 7.51	$ 7.55	$ 7.54	$ 7.52
Low Growth	2010-2011	$ 8.72	$ 8.75	$ 8.71	$ 8.71	$ 8.71	$ 8.75	$ 8.71	$ 8.75	$ 8.74	$ 8.72
Low Growth	2011-2012	$ 9.79	$ 9.93	$ 9.81	$ 9.81	$ 9.81	$ 9.87	$ 9.83	$ 9.91	$ 9.87	$ 9.83
Low Growth	2012-2013	$ 11.04	$ 11.12	$ 11.05	$ 11.05	$ 11.05	$ 11.10	$ 11.14	$ 11.10	$ 11.11	$ 11.06
Low Growth	2013-2014	$ 10.95	$ 11.00	$ 10.94	$ 10.94	$ 10.94	$ 11.00	$ 11.09	$ 11.00	$ 11.03	$ 10.96
Low Growth	2014-2015	$ 12.94	$ 13.08	$ 12.95	$ 12.95	$ 12.95	$ 13.08	$ 13.13	$ 13.08	$ 13.09	$ 12.97
Low Growth	2015-2016	$ 13.95	$ 14.04	$ 13.94	$ 13.94	$ 13.94	$ 14.04	$ 14.14	$ 14.04	$ 14.08	$ 13.96
Low Growth	2016-2017	$ 14.30	$ 14.45	$ 14.30	$ 14.30	$ 14.30	$ 14.45	$ 14.57	$ 14.45	$ 14.49	$ 14.33
Low Growth	2017-2018	$ 14.79	$ 15.02	$ 14.79	$ 14.79	$ 14.79	$ 15.02	$ 15.09	$ 15.02	$ 15.04	$ 14.84
Low Growth	2018-2019	$ 15.43	$ 15.50	$ 15.43	$ 15.43	$ 15.43	$ 15.50	$ 15.58	$ 15.50	$ 15.52	$ 15.44
Low Growth	2019-2020	$ 15.66	$ 15.73	$ 15.66	$ 15.66	$ 15.66	$ 15.73	$ 15.81	$ 15.73	$ 15.76	$ 15.67
Low Growth	2020-2021	$ 16.09	$ 16.04	$ 16.09	$ 16.09	$ 16.09	$ 16.04	$ 16.07	$ 16.04	$ 16.05	$ 16.08
Low Growth	2021-2022	$ 15.98	$ 16.10	$ 15.98	$ 15.98	$ 15.98	$ 16.08	$ 16.05	$ 16.10	$ 16.08	$ 16.01
Low Growth	2022-2023	$ 16.19	$ 16.38	$ 16.19	$ 16.19	$ 16.19	$ 16.30	$ 16.25	$ 16.37	$ 16.31	$ 16.23
Low Growth	2023-2024	$ 16.53	$ 16.72	$ 16.53	$ 16.53	$ 16.53	$ 16.62	$ 16.57	$ 16.72	$ 16.63	$ 16.57
Low Growth	2024-2025	$ 16.85	$ 17.02	$ 16.85	$ 16.85	$ 16.85	$ 16.92	$ 16.86	$ 17.01	$ 16.93	$ 16.89
Low Growth	2025-2026	$ 17.34	$ 17.51	$ 17.35	$ 17.35	$ 17.35	$ 17.41	$ 17.34	$ 17.51	$ 17.42	$ 17.38
Low Growth	2026-2027	$ 17.94	$ 18.13	$ 17.95	$ 17.95	$ 17.95	$ 18.01	$ 17.94	$ 18.12	$ 18.02	$ 17.98
Low Growth	2027-2028	$ 18.58	$ 18.78	$ 18.59	$ 18.59	$ 18.59	$ 18.66	$ 18.59	$ 18.77	$ 18.67	$ 18.63
Low Growth	2028-2029	$ 19.25	$ 19.46	$ 19.27	$ 19.27	$ 19.27	$ 19.34	$ 19.27	$ 19.46	$ 19.35	$ 19.30

1/ Avoided costs are before Environmental Externalities adder.


Appendix 6.4 - Washington and Idaho Avoided Costs - High Price Case
Includes Commodity & Trans. Costs/Excludes Env. Ext. Adder - November to October
2009$/Dth
$25.00
$20.00
$15.00
$10.00
$5.00
$-
$/Dth
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
2018-2019
2019-2020
2020-2021
2021-2022
2022-2023
2023-2024
2024-2025
2025-2026
2026-2027
2027-2028
2028-2029
WA/ID Winter
WA/ID Annual


Appendix 6.4 - Natural Gas Oregon Avoided Costs - High Price Case
Includes Commodity & Trans. Costs/Excludes Env. Ext. Adder - November to October
2009$/Dth
$25.00
$20.00
$15.00
$10.00
$5.00
$-
$/Dth
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
2018-2019
2019-2020
2020-2021
2021-2022
2022-2023
2023-2024
2024-2025
2025-2026
2026-2027
2027-2028
2028-2029
OR Winter
OR Annual

Appendix 6.4

Annual Avoided Costs 1/

2009$

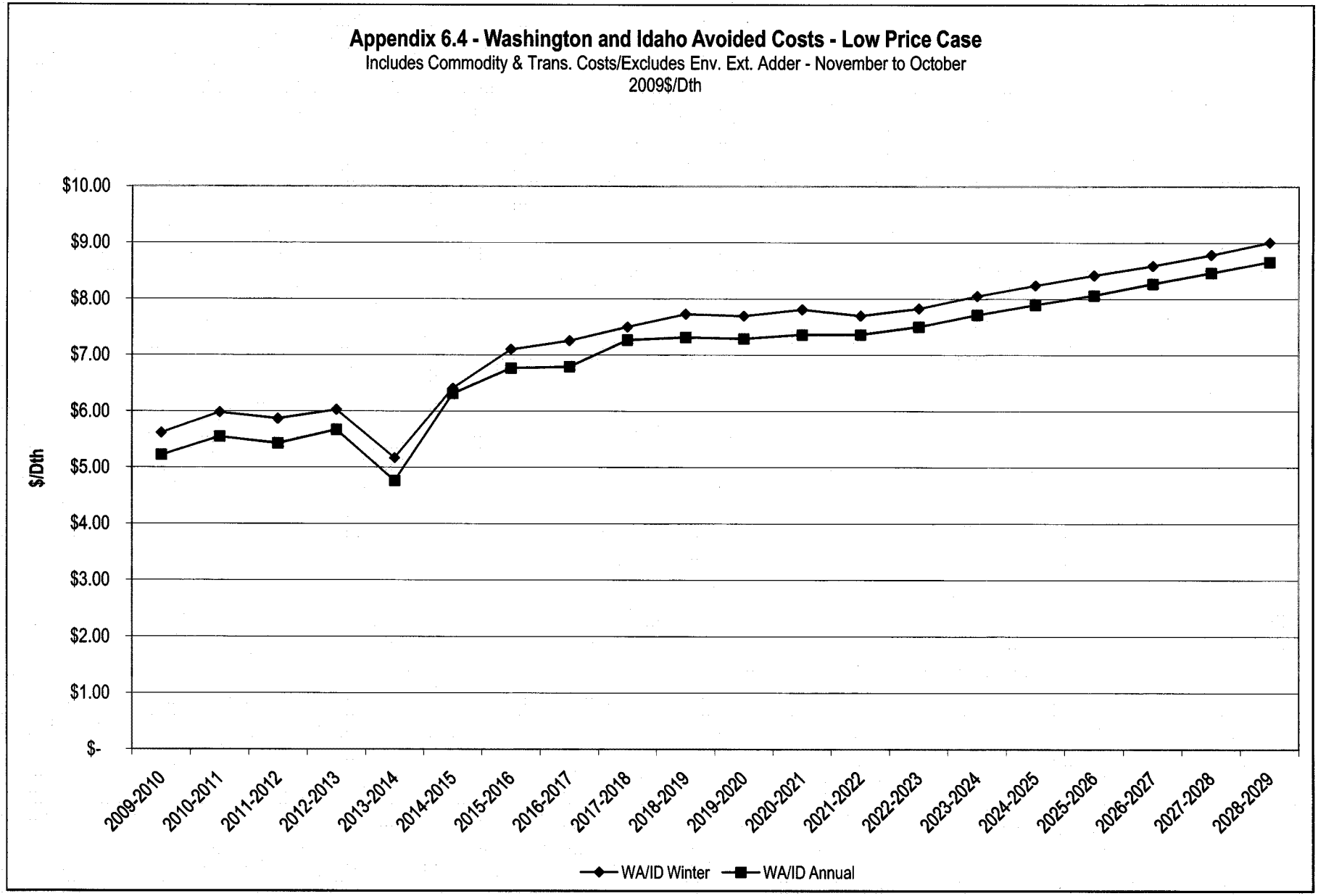
Scenario	Gas Year	Klam Falls	La Grande	Medford GTN	Medford NWP	Roseburg	Wa/Id Both	Wa/Id GTN	Wa/Id NWP	WA/ID Annual	OR Annual
High Growth	2009-2010	$ 5.23	$ 5.19	$ 5.19	$ 5.19	$ 5.19	$ 5.19	$ 5.28	$ 5.19	$ 5.22	$ 5.20
High Growth	2010-2011	$ 5.57	$ 5.55	$ 5.55	$ 5.55	$ 5.55	$ 5.53	$ 5.57	$ 5.55	$ 5.55	$ 5.55
High Growth	2011-2012	$ 5.40	$ 5.44	$ 5.40	$ 5.40	$ 5.40	$ 5.41	$ 5.41	$ 5.47	$ 5.43	$ 5.41
High Growth	2012-2013	$ 5.65	$ 5.67	$ 5.64	$ 5.64	$ 5.64	$ 5.65	$ 5.69	$ 5.67	$ 5.67	$ 5.65
High Growth	2013-2014	$ 4.75	$ 4.74	$ 4.72	$ 4.72	$ 4.72	$ 4.73	$ 4.81	$ 4.74	$ 4.76	$ 4.73
High Growth	2014-2015	$ 6.27	$ 6.30	$ 6.26	$ 6.26	$ 6.26	$ 6.26	$ 6.36	$ 6.30	$ 6.31	$ 6.27
High Growth	2015-2016	$ 6.72	$ 6.73	$ 6.70	$ 6.70	$ 6.70	$ 6.72	$ 6.84	$ 6.73	$ 6.76	$ 6.71
High Growth	2016-2017	$ 6.72	$ 6.77	$ 6.71	$ 6.71	$ 6.71	$ 6.75	$ 6.85	$ 6.77	$ 6.79	$ 6.72
High Growth	2017-2018	$ 7.17	$ 7.24	$ 7.16	$ 7.16	$ 7.16	$ 7.23	$ 7.32	$ 7.25	$ 7.27	$ 7.18
High Growth	2018-2019	$ 7.28	$ 7.30	$ 7.28	$ 7.28	$ 7.28	$ 7.28	$ 7.37	$ 7.30	$ 7.32	$ 7.29
High Growth	2019-2020	$ 7.26	$ 7.27	$ 7.25	$ 7.25	$ 7.25	$ 7.26	$ 7.34	$ 7.28	$ 7.29	$ 7.26
High Growth	2020-2021	$ 7.32	$ 7.38	$ 7.33	$ 7.33	$ 7.33	$ 7.33	$ 7.39	$ 7.38	$ 7.36	$ 7.34
High Growth	2021-2022	$ 7.26	$ 7.43	$ 7.24	$ 7.24	$ 7.24	$ 7.31	$ 7.36	$ 7.42	$ 7.36	$ 7.28
High Growth	2022-2023	$ 7.36	$ 7.60	$ 7.35	$ 7.35	$ 7.35	$ 7.42	$ 7.48	$ 7.61	$ 7.50	$ 7.40
High Growth	2023-2024	$ 7.58	$ 7.84	$ 7.57	$ 7.57	$ 7.57	$ 7.63	$ 7.68	$ 7.84	$ 7.72	$ 7.62
High Growth	2024-2025	$ 7.75	$ 8.02	$ 7.74	$ 7.74	$ 7.74	$ 7.80	$ 7.85	$ 8.03	$ 7.89	$ 7.80
High Growth	2025-2026	$ 7.92	$ 8.18	$ 7.90	$ 7.90	$ 7.90	$ 7.98	$ 8.03	$ 8.19	$ 8.06	$ 7.96
High Growth	2026-2027	$ 8.12	$ 8.41	$ 8.11	$ 8.11	$ 8.11	$ 8.17	$ 8.22	$ 8.42	$ 8.27	$ 8.17
High Growth	2027-2028	$ 8.31	$ 8.60	$ 8.30	$ 8.30	$ 8.30	$ 8.36	$ 8.41	$ 8.61	$ 8.46	$ 8.36
High Growth	2028-2029	$ 8.51	$ 8.79	$ 8.50	$ 8.50	$ 8.50	$ 8.56	$ 8.61	$ 8.81	$ 8.66	$ 8.56

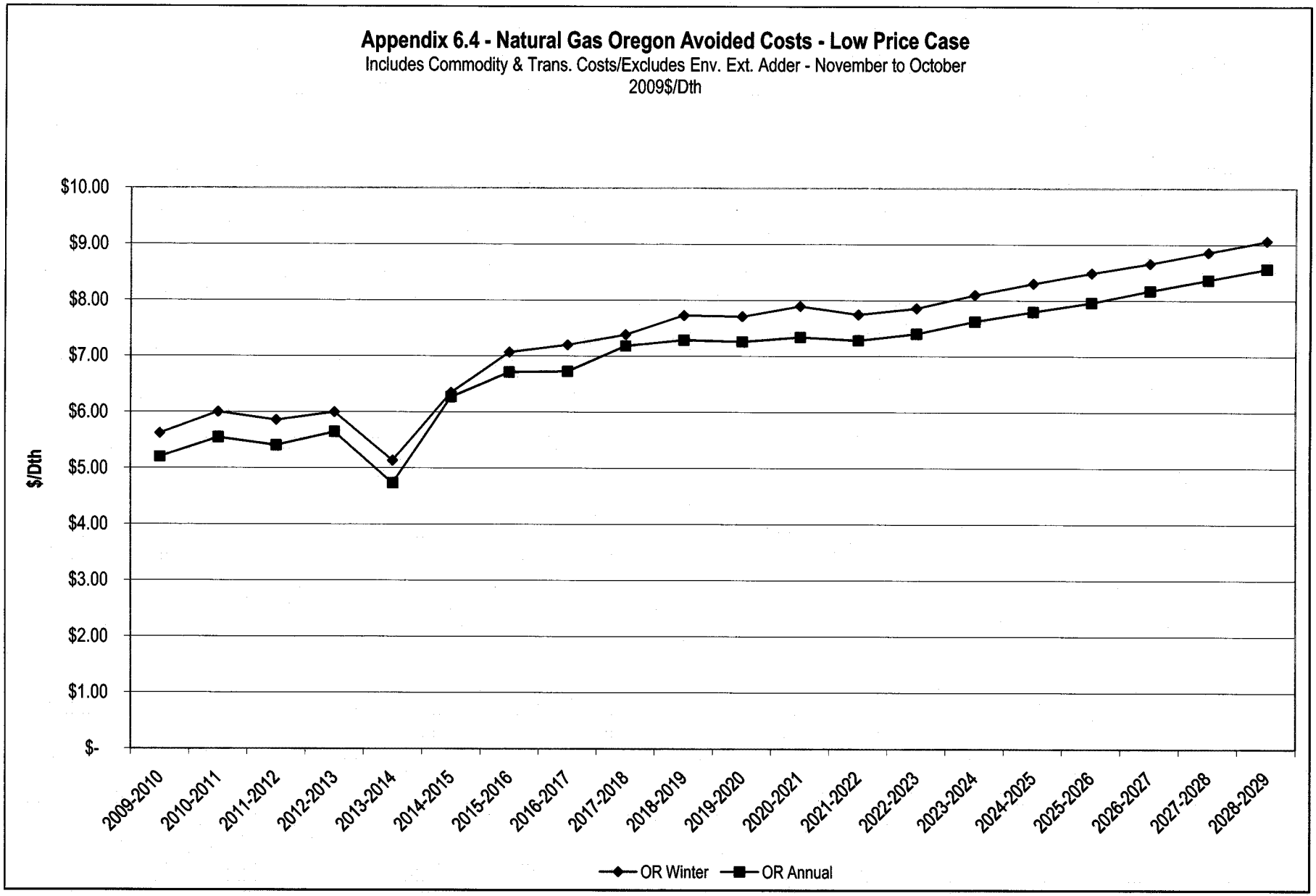
Winter Avoided Costs 1/

2009$

Scenario	Gas Year	Klam Falls	La Grande	Medford GTN	Medford NWP	Roseburg	Wa/Id Both	Wa/Id GTN	Wa/Id NWP	WA/ID Winter	OR Winter
High Growth	2009-2010	$ 5.65	$ 5.61	$ 5.62	$ 5.62	$ 5.62	$ 5.61	$ 5.63	$ 5.61	$ 5.62	$ 5.62
High Growth	2010-2011	$ 6.02	$ 5.98	$ 6.00	$ 6.00	$ 6.00	$ 5.97	$ 5.99	$ 5.98	$ 5.98	$ 6.00
High Growth	2011-2012	$ 5.84	$ 5.90	$ 5.85	$ 5.85	$ 5.85	$ 5.85	$ 5.86	$ 5.89	$ 5.87	$ 5.86
High Growth	2012-2013	$ 5.99	$ 6.01	$ 6.00	$ 6.00	$ 6.00	$ 6.01	$ 6.05	$ 6.01	$ 6.02	$ 6.00
High Growth	2013-2014	$ 5.14	$ 5.14	$ 5.13	$ 5.13	$ 5.13	$ 5.12	$ 5.23	$ 5.15	$ 5.17	$ 5.14
High Growth	2014-2015	$ 6.34	$ 6.40	$ 6.33	$ 6.33	$ 6.33	$ 6.34	$ 6.46	$ 6.41	$ 6.40	$ 6.35
High Growth	2015-2016	$ 7.07	$ 7.06	$ 7.06	$ 7.06	$ 7.06	$ 7.04	$ 7.19	$ 7.07	$ 7.10	$ 7.06
High Growth	2016-2017	$ 7.19	$ 7.23	$ 7.19	$ 7.19	$ 7.19	$ 7.20	$ 7.33	$ 7.23	$ 7.25	$ 7.20
High Growth	2017-2018	$ 7.36	$ 7.46	$ 7.36	$ 7.36	$ 7.36	$ 7.45	$ 7.56	$ 7.48	$ 7.50	$ 7.38
High Growth	2018-2019	$ 7.73	$ 7.71	$ 7.73	$ 7.73	$ 7.73	$ 7.68	$ 7.78	$ 7.72	$ 7.73	$ 7.73
High Growth	2019-2020	$ 7.72	$ 7.68	$ 7.71	$ 7.71	$ 7.71	$ 7.65	$ 7.73	$ 7.69	$ 7.69	$ 7.71
High Growth	2020-2021	$ 7.90	$ 7.84	$ 7.90	$ 7.90	$ 7.90	$ 7.76	$ 7.82	$ 7.84	$ 7.81	$ 7.89
High Growth	2021-2022	$ 7.83	$ 7.74	$ 7.72	$ 7.72	$ 7.72	$ 7.66	$ 7.71	$ 7.72	$ 7.70	$ 7.74
High Growth	2022-2023	$ 7.93	$ 7.89	$ 7.82	$ 7.82	$ 7.82	$ 7.77	$ 7.82	$ 7.89	$ 7.83	$ 7.86
High Growth	2023-2024	$ 8.17	$ 8.14	$ 8.06	$ 8.06	$ 8.06	$ 7.98	$ 8.03	$ 8.13	$ 8.05	$ 8.09
High Growth	2024-2025	$ 8.38	$ 8.32	$ 8.26	$ 8.26	$ 8.26	$ 8.17	$ 8.21	$ 8.32	$ 8.24	$ 8.30
High Growth	2025-2026	$ 8.57	$ 8.51	$ 8.45	$ 8.45	$ 8.45	$ 8.34	$ 8.39	$ 8.52	$ 8.42	$ 8.48
High Growth	2026-2027	$ 8.73	$ 8.70	$ 8.62	$ 8.62	$ 8.62	$ 8.51	$ 8.55	$ 8.69	$ 8.58	$ 8.66
High Growth	2027-2028	$ 8.93	$ 8.89	$ 8.81	$ 8.81	$ 8.81	$ 8.71	$ 8.75	$ 8.88	$ 8.78	$ 8.85
High Growth	2028-2029	$ 9.13	$ 9.10	$ 9.02	$ 9.02	$ 9.02	$ 8.91	$ 8.95	$ 9.15	$ 9.00	$ 9.06

1/ Avoided costs are before Environmental Externalities adder.


Appendix 6.4 - Washington and Idaho Avoided Costs - Low Price Case
Includes Commodity & Trans. Costs/Excludes Env. Ext. Adder - November to October
2009$/Dth
$10.00
$9.00
$8.00
$7.00
$6.00
$5.00
$4.00
$3.00
$2.00
$1.00
$-
$/Dth
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
2018-2019
2019-2020
2020-2021
2021-2022
2022-2023
2023-2024
2024-2025
2025-2026
2026-2027
2027-2028
2028-2029
WA/ID Winter
WA/ID Annual


Appendix 6.4 - Natural Gas Oregon Avoided Costs - Low Price Case
Includes Commodity & Trans. Costs/Excludes Env. Ext. Adder - November to October
2009$/Dth
$10.00
$9.00
$8.00
$7.00
$6.00
$5.00
$4.00
$3.00
$2.00
$1.00
$-
$/Dth
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
2018-2019
2019-2020
2020-2021
2021-2022
2022-2023
2023-2024
2024-2025
2025-2026
2026-2027
2027-2028
2028-2029
OR Winter
OR Annual

Appendix 6.4 - Monthly Avoided Cost Detail 1/
2009$

Scenario	Gas Year	Month	Klam Falls	La Grande	Medford GTN	Medford NWP	Roseburg	Wa/Id Both	Wa/Id GTN	Wa/Id NWP	WA/ID Annual	OR Annual
Low Growth & High Price	2009-2010	Nov	$ 7.04	$ 7.01	$ 7.02	$ 7.02	$ 7.02	$ 7.01	$ 7.01	$ 7.01	$ 7.01	$ 7.02
Low Growth & High Price	2009-2010	Dec	$ 7.43	$ 7.60	$ 7.47	$ 7.47	$ 7.47	$ 7.60	$ 7.39	$ 7.60	$ 7.53	$ 7.46
Low Growth & High Price	2009-2010	Jan	$ 7.76	$ 7.89	$ 7.76	$ 7.76	$ 7.76	$ 7.89	$ 7.75	$ 7.89	$ 7.85	$ 7.79
Low Growth & High Price	2009-2010	Feb	$ 7.82	$ 7.84	$ 7.82	$ 7.82	$ 7.82	$ 7.84	$ 7.81	$ 7.84	$ 7.83	$ 7.82
Low Growth & High Price	2009-2010	Mar	$ 7.52	$ 7.43	$ 7.47	$ 7.47	$ 7.47	$ 7.43	$ 7.60	$ 7.43	$ 7.49	$ 7.47
Low Growth & High Price	2009-2010	Apr	$ 6.94	$ 6.94	$ 6.94	$ 6.94	$ 6.94	$ 6.94	$ 6.95	$ 6.94	$ 6.95	$ 6.94
Low Growth & High Price	2009-2010	May	$ 7.00	$ 6.95	$ 6.95	$ 6.95	$ 6.95	$ 6.95	$ 7.03	$ 6.95	$ 6.97	$ 6.96
Low Growth & High Price	2009-2010	Jun	$ 7.03	$ 6.95	$ 6.95	$ 6.95	$ 6.95	$ 6.95	$ 7.12	$ 6.95	$ 7.00	$ 6.96
Low Growth & High Price	2009-2010	Jul	$ 7.03	$ 6.95	$ 6.95	$ 6.95	$ 6.95	$ 6.95	$ 7.23	$ 6.95	$ 7.04	$ 6.97
Low Growth & High Price	2009-2010	Aug	$ 7.03	$ 6.95	$ 6.95	$ 6.95	$ 6.95	$ 6.95	$ 7.31	$ 6.95	$ 7.07	$ 6.97
Low Growth & High Price	2009-2010	Sep	$ 7.04	$ 6.95	$ 6.95	$ 6.95	$ 6.95	$ 6.95	$ 7.30	$ 6.95	$ 7.07	$ 6.97
Low Growth & High Price	2009-2010	Oct	$ 7.34	$ 7.34	$ 7.34	$ 7.34	$ 7.34	$ 7.34	$ 7.35	$ 7.34	$ 7.35	$ 7.34
Low Growth & High Price	2010-2011	Nov	$ 8.58	$ 8.55	$ 8.57	$ 8.57	$ 8.57	$ 8.55	$ 8.55	$ 8.55	$ 8.55	$ 8.57
Low Growth & High Price	2010-2011	Dec	$ 8.80	$ 8.93	$ 8.83	$ 8.83	$ 8.83	$ 8.93	$ 8.77	$ 8.93	$ 8.87	$ 8.84
Low Growth & High Price	2010-2011	Jan	$ 8.83	$ 8.99	$ 8.83	$ 8.83	$ 8.83	$ 8.99	$ 8.82	$ 8.99	$ 8.94	$ 8.87
Low Growth & High Price	2010-2011	Feb	$ 8.87	$ 8.87	$ 8.86	$ 8.86	$ 8.86	$ 8.87	$ 8.85	$ 8.87	$ 8.87	$ 8.86
Low Growth & High Price	2010-2011	Mar	$ 8.51	$ 8.41	$ 8.46	$ 8.46	$ 8.46	$ 8.41	$ 8.57	$ 8.41	$ 8.47	$ 8.46
Low Growth & High Price	2010-2011	Apr	$ 7.79	$ 7.95	$ 7.79	$ 7.79	$ 7.79	$ 7.83	$ 7.83	$ 7.95	$ 7.87	$ 7.83
Low Growth & High Price	2010-2011	May	$ 7.83	$ 7.95	$ 7.83	$ 7.83	$ 7.83	$ 7.88	$ 7.88	$ 7.95	$ 7.90	$ 7.86
Low Growth & High Price	2010-2011	Jun	$ 7.91	$ 7.96	$ 7.91	$ 7.91	$ 7.91	$ 7.96	$ 7.96	$ 7.96	$ 7.96	$ 7.92
Low Growth & High Price	2010-2011	Jul	$ 8.01	$ 7.96	$ 7.96	$ 7.96	$ 7.96	$ 7.96	$ 8.05	$ 7.96	$ 7.99	$ 7.97
Low Growth & High Price	2010-2011	Aug	$ 8.05	$ 7.96	$ 7.96	$ 7.96	$ 7.96	$ 7.96	$ 8.12	$ 7.96	$ 8.01	$ 7.98
Low Growth & High Price	2010-2011	Sep	$ 8.06	$ 7.96	$ 7.96	$ 7.96	$ 7.96	$ 7.96	$ 8.12	$ 7.96	$ 8.02	$ 7.98
Low Growth & High Price	2010-2011	Oct	$ 8.14	$ 8.14	$ 8.14	$ 8.14	$ 8.14	$ 8.14	$ 8.17	$ 8.14	$ 8.15	$ 8.14
Low Growth & High Price	2011-2012	Nov	$ 9.13	$ 9.23	$ 9.13	$ 9.13	$ 9.13	$ 9.13	$ 9.13	$ 9.23	$ 9.16	$ 9.15
Low Growth & High Price	2011-2012	Dec	$ 9.31	$ 9.62	$ 9.37	$ 9.37	$ 9.37	$ 9.37	$ 9.58	$ 9.62	$ 9.50	$ 9.41
Low Growth & High Price	2011-2012	Jan	$ 10.29	$ 10.45	$ 10.29	$ 10.29	$ 10.29	$ 10.39	$ 10.32	$ 10.45	$ 10.39	$ 10.33
Low Growth & High Price	2011-2012	Feb	$ 10.34	$ 10.38	$ 10.34	$ 10.34	$ 10.34	$ 10.37	$ 10.37	$ 10.37	$ 10.37	$ 10.35
Low Growth & High Price	2011-2012	Mar	$ 9.90	$ 9.97	$ 9.90	$ 9.90	$ 9.90	$ 9.91	$ 10.03	$ 9.91	$ 9.95	$ 9.92
Low Growth & High Price	2011-2012	Apr	$ 9.25	$ 9.45	$ 9.25	$ 9.25	$ 9.25	$ 9.32	$ 9.32	$ 9.59	$ 9.41	$ 9.29
Low Growth & High Price	2011-2012	May	$ 9.27	$ 9.45	$ 9.27	$ 9.27	$ 9.27	$ 9.35	$ 9.35	$ 9.59	$ 9.43	$ 9.31
Low Growth & High Price	2011-2012	Jun	$ 9.37	$ 9.50	$ 9.37	$ 9.37	$ 9.37	$ 9.44	$ 9.44	$ 9.60	$ 9.49	$ 9.40
Low Growth & High Price	2011-2012	Jul	$ 9.48	$ 9.60	$ 9.48	$ 9.48	$ 9.48	$ 9.56	$ 9.56	$ 9.60	$ 9.57	$ 9.51
Low Growth & High Price	2011-2012	Aug	$ 9.55	$ 9.63	$ 9.55	$ 9.55	$ 9.55	$ 9.63	$ 9.63	$ 9.63	$ 9.63	$ 9.57
Low Growth & High Price	2011-2012	Sep	$ 9.55	$ 9.61	$ 9.55	$ 9.55	$ 9.55	$ 9.61	$ 9.62	$ 9.61	$ 9.61	$ 9.57
Low Growth & High Price	2011-2012	Oct	$ 9.59	$ 9.64	$ 9.59	$ 9.59	$ 9.59	$ 9.64	$ 9.65	$ 9.64	$ 9.64	$ 9.60
Low Growth & High Price	2012-2013	Nov	$ 10.77	$ 10.77	$ 10.77	$ 10.77	$ 10.77	$ 10.77	$ 10.77	$ 10.77	$ 10.77	$ 10.77
Low Growth & High Price	2012-2013	Dec	$ 10.93	$ 11.03	$ 10.95	$ 10.95	$ 10.95	$ 11.03	$ 10.93	$ 11.03	$ 11.00	$ 10.97
Low Growth & High Price	2012-2013	Jan	$ 11.33	$ 11.46	$ 11.33	$ 11.33	$ 11.33	$ 11.46	$ 11.45	$ 11.46	$ 11.45	$ 11.35
Low Growth & High Price	2012-2013	Feb	$ 11.35	$ 11.42	$ 11.36	$ 11.35	$ 11.35	$ 11.42	$ 11.46	$ 11.42	$ 11.44	$ 11.37
Low Growth & High Price	2012-2013	Mar	$ 10.86	$ 10.91	$ 10.86	$ 10.86	$ 10.86	$ 10.83	$ 11.08	$ 10.83	$ 10.92	$ 10.87
Low Growth & High Price	2012-2013	Apr	$ 10.25	$ 10.51	$ 10.25	$ 10.25	$ 10.25	$ 10.36	$ 10.36	$ 10.54	$ 10.42	$ 10.31
Low Growth & High Price	2012-2013	May	$ 10.31	$ 10.51	$ 10.31	$ 10.31	$ 10.31	$ 10.42	$ 10.42	$ 10.54	$ 10.46	$ 10.35
Low Growth & High Price	2012-2013	Jun	$ 10.41	$ 10.52	$ 10.41	$ 10.41	$ 10.41	$ 10.52	$ 10.52	$ 10.54	$ 10.53	$ 10.44
Low Growth & High Price	2012-2013	Jul	$ 10.49	$ 10.54	$ 10.49	$ 10.49	$ 10.49	$ 10.54	$ 10.60	$ 10.54	$ 10.56	$ 10.50
Low Growth & High Price	2012-2013	Aug	$ 10.58	$ 10.60	$ 10.58	$ 10.58	$ 10.58	$ 10.60	$ 10.66	$ 10.60	$ 10.62	$ 10.58
Low Growth & High Price	2012-2013	Sep	$ 10.55	$ 10.56	$ 10.55	$ 10.55	$ 10.55	$ 10.56	$ 10.63	$ 10.56	$ 10.59	$ 10.55
Low Growth & High Price	2012-2013	Oct	$ 10.65	$ 10.63	$ 10.63	$ 10.63	$ 10.63	$ 10.63	$ 10.72	$ 10.63	$ 10.66	$ 10.63
Low Growth & High Price	2013-2014	Nov	$ 11.14	$ 11.13	$ 11.14	$ 11.14	$ 11.14	$ 11.13	$ 11.13	$ 11.13	$ 11.13	$ 11.14
Low Growth & High Price	2013-2014	Dec	$ 11.21	$ 11.22	$ 11.21	$ 11.21	$ 11.21	$ 11.22	$ 11.21	$ 11.22	$ 11.21	$ 11.21
Low Growth & High Price	2013-2014	Jan	$ 10.90	$ 11.15	$ 10.90	$ 10.90	$ 10.90	$ 11.15	$ 11.12	$ 11.15	$ 11.14	$ 10.95
Low Growth & High Price	2013-2014	Feb	$ 10.99	$ 11.03	$ 10.99	$ 10.99	$ 10.99	$ 11.03	$ 11.20	$ 11.03	$ 11.09	$ 11.00
Low Growth & High Price	2013-2014	Mar	$ 10.51	$ 10.49	$ 10.50	$ 10.50	$ 10.50	$ 10.49	$ 10.80	$ 10.49	$ 10.59	$ 10.50
Low Growth & High Price	2013-2014	Apr	$ 10.07	$ 10.24	$ 10.07	$ 10.07	$ 10.07	$ 10.20	$ 10.20	$ 10.24	$ 10.22	$ 10.11
Low Growth & High Price	2013-2014	May	$ 10.09	$ 10.24	$ 10.09	$ 10.09	$ 10.09	$ 10.24	$ 10.25	$ 10.24	$ 10.25	$ 10.12
Low Growth & High Price	2013-2014	Jun	$ 10.24	$ 10.24	$ 10.24	$ 10.24	$ 10.24	$ 10.24	$ 10.35	$ 10.24	$ 10.28	$ 10.24
Low Growth & High Price	2013-2014	Jul	$ 10.33	$ 10.25	$ 10.25	$ 10.25	$ 10.25	$ 10.25	$ 10.44	$ 10.25	$ 10.31	$ 10.26
Low Growth & High Price	2013-2014	Aug	$ 10.39	$ 10.27	$ 10.27	$ 10.27	$ 10.27	$ 10.27	$ 10.50	$ 10.27	$ 10.35	$ 10.29
Low Growth & High Price	2013-2014	Sep	$ 10.35	$ 10.25	$ 10.25	$ 10.25	$ 10.25	$ 10.25	$ 10.44	$ 10.25	$ 10.31	$ 10.27
Low Growth & High Price	2013-2014	Oct	$ 10.39	$ 10.33	$ 10.33	$ 10.33	$ 10.33	$ 10.33	$ 10.47	$ 10.33	$ 10.38	$ 10.34
Low Growth & High Price	2014-2015	Nov	$ 12.34	$ 12.34	$ 12.34	$ 12.34	$ 12.34	$ 12.34	$ 12.34	$ 12.34	$ 12.34	$ 12.34
Low Growth & High Price	2014-2015	Dec	$ 12.48	$ 12.66	$ 12.52	$ 12.52	$ 12.52	$ 12.66	$ 12.47	$ 12.66	$ 12.60	$ 12.54
Low Growth & High Price	2014-2015	Jan	$ 13.42	$ 13.71	$ 13.42	$ 13.42	$ 13.42	$ 13.71	$ 13.71	$ 13.71	$ 13.71	$ 13.48
Low Growth & High Price	2014-2015	Feb	$ 13.52	$ 13.64	$ 13.52	$ 13.52	$ 13.52	$ 13.64	$ 13.78	$ 13.64	$ 13.69	$ 13.54
Low Growth & High Price	2014-2015	Mar	$ 12.98	$ 13.05	$ 12.98	$ 12.98	$ 12.98	$ 13.05	$ 13.40	$ 13.05	$ 13.17	$ 12.99
Low Growth & High Price	2014-2015	Apr	$ 12.53	$ 12.88	$ 12.53	$ 12.53	$ 12.53	$ 12.75	$ 12.75	$ 12.88	$ 12.80	$ 12.60
Low Growth & High Price	2014-2015	May	$ 12.60	$ 12.88	$ 12.60	$ 12.60	$ 12.60	$ 12.84	$ 12.84	$ 12.88	$ 12.85	$ 12.65
Low Growth & High Price	2014-2015	Jun	$ 12.80	$ 12.89	$ 12.80	$ 12.80	$ 12.80	$ 12.89	$ 12.92	$ 12.89	$ 12.90	$ 12.81
Low Growth & High Price	2014-2015	Jul	$ 12.95	$ 12.89	$ 12.89	$ 12.89	$ 12.89	$ 12.89	$ 13.06	$ 12.89	$ 12.94	$ 12.90
Low Growth & High Price	2014-2015	Aug	$ 12.99	$ 12.92	$ 12.92	$ 12.92	$ 12.92	$ 12.92	$ 13.10	$ 12.92	$ 12.98	$ 12.93
Low Growth & High Price	2014-2015	Sep	$ 12.94	$ 12.89	$ 12.89	$ 12.89	$ 12.89	$ 12.89	$ 13.04	$ 12.89	$ 12.94	$ 12.90
Low Growth & High Price	2014-2015	Oct	$ 12.98	$ 12.99	$ 12.95	$ 12.95	$ 12.95	$ 12.95	$ 13.07	$ 12.95	$ 12.99	$ 12.96
Low Growth & High Price	2015-2016	Nov	$ 13.84	$ 13.85	$ 13.84	$ 13.84	$ 13.84	$ 13.85	$ 13.85	$ 13.85	$ 13.85	$ 13.84
Low Growth & High Price	2015-2016	Dec	$ 14.02	$ 14.13	$ 14.02	$ 14.02	$ 14.02	$ 14.13	$ 14.07	$ 14.13	$ 14.11	$ 14.04
Low Growth & High Price	2015-2016	Jan	$ 14.01	$ 14.35	$ 14.01	$ 14.01	$ 14.01	$ 14.35	$ 14.34	$ 14.35	$ 14.35	$ 14.08
Low Growth & High Price	2015-2016	Feb	$ 14.46	$ 14.32	$ 14.38	$ 14.38	$ 14.38	$ 14.31	$ 14.44	$ 14.31	$ 14.36	$ 14.38
Low Growth & High Price	2015-2016	Mar	$ 13.47	$ 13.57	$ 13.47	$ 13.47	$ 13.47	$ 13.57	$ 14.03	$ 13.57	$ 13.72	$ 13.49
Low Growth & High Price	2015-2016	Apr	$ 13.03	$ 13.41	$ 13.03	$ 13.03	$ 13.03	$ 13.35	$ 13.35	$ 13.41	$ 13.37	$ 13.10
Low Growth & High Price	2015-2016	May	$ 13.09	$ 13.41	$ 13.09	$ 13.09	$ 13.09	$ 13.41	$ 13.42	$ 13.41	$ 13.42	$ 13.15
Low Growth & High Price	2015-2016	Jun	$ 13.32	$ 13.41	$ 13.32	$ 13.32	$ 13.32	$ 13.41	$ 13.45	$ 13.41	$ 13.43	$ 13.34
Low Growth & High Price	2015-2016	Jul	$ 13.52	$ 13.42	$ 13.42	$ 13.42	$ 13.42	$ 13.42	$ 13.62	$ 13.42	$ 13.49	$ 13.44
Low Growth & High Price	2015-2016	Aug	$ 13.54	$ 13.42	$ 13.42	$ 13.42	$ 13.42	$ 13.42	$ 13.65	$ 13.42	$ 13.50	$ 13.44
Low Growth & High Price	2015-2016	Sep	$ 13.53	$ 13.42	$ 13.42	$ 13.42	$ 13.42	$ 13.42	$ 13.62	$ 13.42	$ 13.49	$ 13.44
Low Growth & High Price	2015-2016	Oct	$ 13.62	$ 13.61	$ 13.61	$ 13.61	$ 13.61	$ 13.61	$ 13.69	$ 13.61	$ 13.64	$ 13.61
Low Growth & High Price	2016-2017	Nov	$ 14.48	$ 14.48	$ 14.48	$ 14.48	$ 14.48	$ 14.48	$ 14.48	$ 14.48	$ 14.48	$ 14.48
Low Growth & High Price	2016-2017	Dec	$ 14.68	$ 14.66	$ 14.66	$ 14.66	$ 14.66	$ 14.66	$ 14.63	$ 14.66	$ 14.66	$ 14.66
Low Growth & High Price	2016-2017	Jan	$ 14.23	$ 14.74	$ 14.23	$ 14.23	$ 14.23	$ 14.74	$ 14.73	$ 14.74	$ 14.73	$ 14.33
Low Growth & High Price	2016-2017	Feb	$ 14.39	$ 14.49	$ 14.39	$ 14.39	$ 14.39	$ 14.49	$ 14.80	$ 14.49	$ 14.60	$ 14.41
Low Growth & High Price	2016-2017	Mar	$ 13.75	$ 13.86	$ 13.75	$ 13.75	$ 13.75	$ 13.86	$ 14.25	$ 13.86	$ 13.99	$ 13.77
Low Growth & High Price	2016-2017	Apr	$ 13.26	$ 13.64	$ 13.26	$ 13.26	$ 13.26	$ 13.57	$ 13.57	$ 13.65	$ 13.60	$ 13.33
Low Growth & High Price	2016-2017	May	$ 13.41	$ 13.65	$ 13.41	$ 13.41	$ 13.41	$ 13.65	$ 13.69	$ 13.65	$ 13.66	$ 13.45
Low Growth & High Price	2016-2017	Jun	$ 13.42	$ 13.65	$ 13.42	$ 13.42	$ 13.42	$ 13.65	$ 13.72	$ 13.65	$ 13.67	$ 13.46
Low Growth & High Price	2016-2017	Jul	$ 13.63	$ 13.65	$ 13.63	$ 13.63	$ 13.63	$ 13.65	$ 13.80	$ 13.65	$ 13.70	$ 13.63
Low Growth & High Price	2016-2017	Aug	$ 13.69	$ 13.71	$ 13.69	$ 13.69	$ 13.69	$ 13.71	$ 13.84	$ 13.71	$ 13.75	$ 13.69

Appendix 6.4 - Monthly Avoided Cost Detail 1/

2009$

Scenario	Gas Year	Month	Klam Falls	La Grande	Medford GTN	Medford NWP	Roseburg	Wa/Id Both	Wa/Id GTN	Wa/Id NWP	WA/ID Annual	OR Annual
Low Growth & High Price	2016-2017	Sep	$ 13.65	$ 13.66	$ 13.65	$ 13.65	$ 13.65	$ 13.66	$ 13.79	$ 13.66	$ 13.70	$ 13.65
Low Growth & High Price	2016-2017	Oct	$ 13.71	$ 13.71	$ 13.71	$ 13.71	$ 13.71	$ 13.71	$ 13.83	$ 13.71	$ 13.75	$ 13.71
Low Growth & High Price	2017-2018	Nov	$ 14.51	$ 14.65	$ 14.51	$ 14.51	$ 14.51	$ 14.65	$ 14.65	$ 14.65	$ 14.65	$ 14.53
Low Growth & High Price	2017-2018	Dec	$ 14.64	$ 14.88	$ 14.65	$ 14.65	$ 14.65	$ 14.88	$ 14.75	$ 14.88	$ 14.83	$ 14.69
Low Growth & High Price	2017-2018	Jan	$ 15.08	$ 15.49	$ 15.08	$ 15.08	$ 15.08	$ 15.49	$ 15.48	$ 15.49	$ 15.48	$ 15.16
Low Growth & High Price	2017-2018	Feb	$ 15.20	$ 15.35	$ 15.20	$ 15.20	$ 15.20	$ 15.35	$ 15.55	$ 15.35	$ 15.41	$ 15.23
Low Growth & High Price	2017-2018	Mar	$ 14.57	$ 14.74	$ 14.57	$ 14.57	$ 14.57	$ 14.74	$ 15.05	$ 14.74	$ 14.85	$ 14.60
Low Growth & High Price	2017-2018	Apr	$ 14.19	$ 14.59	$ 14.19	$ 14.19	$ 14.19	$ 14.45	$ 14.46	$ 14.59	$ 14.50	$ 14.27
Low Growth & High Price	2017-2018	May	$ 14.30	$ 14.59	$ 14.30	$ 14.30	$ 14.30	$ 14.57	$ 14.57	$ 14.59	$ 14.57	$ 14.35
Low Growth & High Price	2017-2018	Jun	$ 14.35	$ 14.59	$ 14.35	$ 14.35	$ 14.35	$ 14.59	$ 14.63	$ 14.59	$ 14.60	$ 14.40
Low Growth & High Price	2017-2018	Jul	$ 14.57	$ 14.61	$ 14.57	$ 14.57	$ 14.57	$ 14.61	$ 14.75	$ 14.61	$ 14.66	$ 14.58
Low Growth & High Price	2017-2018	Aug	$ 14.62	$ 14.66	$ 14.62	$ 14.62	$ 14.62	$ 14.66	$ 14.80	$ 14.66	$ 14.71	$ 14.63
Low Growth & High Price	2017-2018	Sep	$ 14.53	$ 14.60	$ 14.53	$ 14.53	$ 14.53	$ 14.60	$ 14.70	$ 14.60	$ 14.63	$ 14.54
Low Growth & High Price	2017-2018	Oct	$ 14.57	$ 14.57	$ 14.57	$ 14.57	$ 14.57	$ 14.57	$ 14.71	$ 14.57	$ 14.62	$ 14.57
Low Growth & High Price	2018-2019	Nov	$ 15.45	$ 15.56	$ 15.45	$ 15.45	$ 15.45	$ 15.56	$ 15.56	$ 15.56	$ 15.56	$ 15.47
Low Growth & High Price	2018-2019	Dec	$ 15.55	$ 15.68	$ 15.55	$ 15.55	$ 15.55	$ 15.68	$ 15.66	$ 15.68	$ 15.67	$ 15.58
Low Growth & High Price	2018-2019	Jan	$ 15.72	$ 15.71	$ 15.71	$ 15.71	$ 15.71	$ 15.71	$ 15.70	$ 15.71	$ 15.71	$ 15.71
Low Growth & High Price	2018-2019	Feb	$ 15.50	$ 15.56	$ 15.50	$ 15.50	$ 15.50	$ 15.56	$ 15.75	$ 15.56	$ 15.62	$ 15.51
Low Growth & High Price	2018-2019	Mar	$ 14.95	$ 14.99	$ 14.95	$ 14.95	$ 14.95	$ 14.99	$ 15.24	$ 14.99	$ 15.07	$ 14.95
Low Growth & High Price	2018-2019	Apr	$ 14.47	$ 14.74	$ 14.47	$ 14.47	$ 14.47	$ 14.67	$ 14.67	$ 14.74	$ 14.69	$ 14.52
Low Growth & High Price	2018-2019	May	$ 14.56	$ 14.74	$ 14.56	$ 14.56	$ 14.56	$ 14.74	$ 14.75	$ 14.74	$ 14.74	$ 14.59
Low Growth & High Price	2018-2019	Jun	$ 14.63	$ 14.74	$ 14.63	$ 14.63	$ 14.63	$ 14.74	$ 14.82	$ 14.74	$ 14.77	$ 14.65
Low Growth & High Price	2018-2019	Jul	$ 14.71	$ 14.74	$ 14.71	$ 14.71	$ 14.71	$ 14.74	$ 14.91	$ 14.74	$ 14.80	$ 14.71
Low Growth & High Price	2018-2019	Aug	$ 14.74	$ 14.75	$ 14.74	$ 14.74	$ 14.74	$ 14.75	$ 14.94	$ 14.75	$ 14.82	$ 14.74
Low Growth & High Price	2018-2019	Sep	$ 14.69	$ 14.75	$ 14.69	$ 14.69	$ 14.69	$ 14.75	$ 14.88	$ 14.75	$ 14.79	$ 14.70
Low Growth & High Price	2018-2019	Oct	$ 14.80	$ 14.80	$ 14.80	$ 14.80	$ 14.80	$ 14.80	$ 14.95	$ 14.80	$ 14.85	$ 14.80
Low Growth & High Price	2019-2020	Nov	$ 15.78	$ 15.76	$ 15.78	$ 15.78	$ 15.78	$ 15.76	$ 15.76	$ 15.76	$ 15.76	$ 15.77
Low Growth & High Price	2019-2020	Dec	$ 15.90	$ 15.90	$ 15.90	$ 15.90	$ 15.90	$ 15.90	$ 15.88	$ 15.90	$ 15.89	$ 15.90
Low Growth & High Price	2019-2020	Jan	$ 15.61	$ 15.91	$ 15.61	$ 15.61	$ 15.61	$ 15.91	$ 15.90	$ 15.91	$ 15.91	$ 15.67
Low Growth & High Price	2019-2020	Feb	$ 15.71	$ 15.78	$ 15.71	$ 15.71	$ 15.71	$ 15.77	$ 15.98	$ 15.77	$ 15.84	$ 15.73
Low Growth & High Price	2019-2020	Mar	$ 15.32	$ 15.29	$ 15.32	$ 15.32	$ 15.32	$ 15.29	$ 15.54	$ 15.29	$ 15.38	$ 15.31
Low Growth & High Price	2019-2020	Apr	$ 14.61	$ 15.08	$ 14.61	$ 14.61	$ 14.61	$ 14.85	$ 14.85	$ 15.08	$ 14.93	$ 14.70
Low Growth & High Price	2019-2020	May	$ 14.71	$ 15.08	$ 14.71	$ 14.71	$ 14.71	$ 14.95	$ 14.95	$ 15.08	$ 15.00	$ 14.78
Low Growth & High Price	2019-2020	Jun	$ 14.81	$ 15.09	$ 14.81	$ 14.81	$ 14.81	$ 15.04	$ 15.04	$ 15.09	$ 15.06	$ 14.86
Low Growth & High Price	2019-2020	Jul	$ 14.98	$ 15.09	$ 14.98	$ 14.98	$ 14.98	$ 15.09	$ 15.19	$ 15.09	$ 15.12	$ 15.00
Low Growth & High Price	2019-2020	Aug	$ 15.00	$ 15.16	$ 15.00	$ 15.00	$ 15.00	$ 15.16	$ 15.21	$ 15.16	$ 15.18	$ 15.03
Low Growth & High Price	2019-2020	Sep	$ 15.01	$ 15.11	$ 15.01	$ 15.01	$ 15.01	$ 15.11	$ 15.20	$ 15.11	$ 15.14	$ 15.03
Low Growth & High Price	2019-2020	Oct	$ 15.13	$ 15.14	$ 15.13	$ 15.13	$ 15.13	$ 15.14	$ 15.27	$ 15.14	$ 15.18	$ 15.13
Low Growth & High Price	2020-2021	Nov	$ 16.13	$ 16.09	$ 16.13	$ 16.13	$ 16.13	$ 16.09	$ 16.09	$ 16.09	$ 16.09	$ 16.12
Low Growth & High Price	2020-2021	Dec	$ 16.22	$ 16.21	$ 16.21	$ 16.21	$ 16.21	$ 16.21	$ 16.19	$ 16.21	$ 16.20	$ 16.21
Low Growth & High Price	2020-2021	Jan	$ 16.22	$ 16.21	$ 16.22	$ 16.22	$ 16.22	$ 16.21	$ 16.20	$ 16.21	$ 16.20	$ 16.22
Low Growth & High Price	2020-2021	Feb	$ 16.29	$ 16.18	$ 16.29	$ 16.29	$ 16.29	$ 16.18	$ 16.27	$ 16.18	$ 16.21	$ 16.27
Low Growth & High Price	2020-2021	Mar	$ 15.61	$ 15.55	$ 15.60	$ 15.60	$ 15.60	$ 15.55	$ 15.61	$ 15.55	$ 15.57	$ 15.59
Low Growth & High Price	2020-2021	Apr	$ 14.83	$ 15.27	$ 14.83	$ 14.83	$ 14.83	$ 15.05	$ 15.05	$ 15.27	$ 15.13	$ 14.92
Low Growth & High Price	2020-2021	May	$ 14.87	$ 15.27	$ 14.87	$ 14.87	$ 14.87	$ 15.13	$ 15.13	$ 15.27	$ 15.18	$ 14.95
Low Growth & High Price	2020-2021	Jun	$ 14.95	$ 15.28	$ 14.95	$ 14.95	$ 14.95	$ 15.21	$ 15.21	$ 15.28	$ 15.23	$ 15.01
Low Growth & High Price	2020-2021	Jul	$ 15.06	$ 15.30	$ 15.06	$ 15.06	$ 15.06	$ 15.30	$ 15.34	$ 15.30	$ 15.31	$ 15.11
Low Growth & High Price	2020-2021	Aug	$ 15.02	$ 15.31	$ 15.02	$ 15.02	$ 15.02	$ 15.31	$ 15.31	$ 15.31	$ 15.31	$ 15.08
Low Growth & High Price	2020-2021	Sep	$ 15.00	$ 15.28	$ 15.00	$ 15.00	$ 15.00	$ 15.24	$ 15.24	$ 15.28	$ 15.26	$ 15.05
Low Growth & High Price	2020-2021	Oct	$ 14.99	$ 15.31	$ 14.99	$ 14.99	$ 14.99	$ 15.24	$ 15.24	$ 15.31	$ 15.27	$ 15.05
Low Growth & High Price	2021-2022	Nov	$ 16.01	$ 16.08	$ 16.01	$ 16.01	$ 16.01	$ 16.06	$ 16.06	$ 16.08	$ 16.07	$ 16.02
Low Growth & High Price	2021-2022	Dec	$ 16.19	$ 16.27	$ 16.20	$ 16.20	$ 16.20	$ 16.23	$ 16.20	$ 16.27	$ 16.23	$ 16.21
Low Growth & High Price	2021-2022	Jan	$ 16.04	$ 16.29	$ 16.04	$ 16.04	$ 16.04	$ 16.22	$ 16.13	$ 16.29	$ 16.21	$ 16.09
Low Growth & High Price	2021-2022	Feb	$ 16.12	$ 16.24	$ 16.12	$ 16.12	$ 16.12	$ 16.22	$ 16.22	$ 16.22	$ 16.22	$ 16.15
Low Growth & High Price	2021-2022	Mar	$ 15.57	$ 15.66	$ 15.57	$ 15.57	$ 15.57	$ 15.66	$ 15.66	$ 15.66	$ 15.66	$ 15.59
Low Growth & High Price	2021-2022	Apr	$ 14.78	$ 15.40	$ 14.78	$ 14.78	$ 14.78	$ 15.10	$ 15.10	$ 15.54	$ 15.25	$ 14.90
Low Growth & High Price	2021-2022	May	$ 14.86	$ 15.40	$ 14.86	$ 14.86	$ 14.86	$ 15.21	$ 15.21	$ 15.54	$ 15.32	$ 14.97
Low Growth & High Price	2021-2022	Jun	$ 14.94	$ 15.40	$ 14.94	$ 14.94	$ 14.94	$ 15.30	$ 15.30	$ 15.54	$ 15.38	$ 15.03
Low Growth & High Price	2021-2022	Jul	$ 15.07	$ 15.54	$ 15.07	$ 15.07	$ 15.07	$ 15.43	$ 15.43	$ 15.54	$ 15.47	$ 15.16
Low Growth & High Price	2021-2022	Aug	$ 15.13	$ 15.54	$ 15.13	$ 15.13	$ 15.13	$ 15.49	$ 15.49	$ 15.55	$ 15.51	$ 15.21
Low Growth & High Price	2021-2022	Sep	$ 15.12	$ 15.55	$ 15.12	$ 15.12	$ 15.12	$ 15.43	$ 15.43	$ 15.55	$ 15.47	$ 15.20
Low Growth & High Price	2021-2022	Oct	$ 15.18	$ 15.59	$ 15.18	$ 15.18	$ 15.18	$ 15.45	$ 15.45	$ 15.59	$ 15.49	$ 15.26
Low Growth & High Price	2022-2023	Nov	$ 16.24	$ 16.41	$ 16.24	$ 16.24	$ 16.24	$ 16.27	$ 16.27	$ 16.41	$ 16.32	$ 16.27
Low Growth & High Price	2022-2023	Dec	$ 16.38	$ 16.55	$ 16.39	$ 16.39	$ 16.39	$ 16.45	$ 16.36	$ 16.55	$ 16.45	$ 16.42
Low Growth & High Price	2022-2023	Jan	$ 16.22	$ 16.58	$ 16.22	$ 16.22	$ 16.22	$ 16.47	$ 16.35	$ 16.58	$ 16.47	$ 16.29
Low Growth & High Price	2022-2023	Feb	$ 16.31	$ 16.46	$ 16.32	$ 16.32	$ 16.32	$ 16.43	$ 16.42	$ 16.43	$ 16.42	$ 16.35
Low Growth & High Price	2022-2023	Mar	$ 15.81	$ 15.90	$ 15.81	$ 15.81	$ 15.81	$ 15.90	$ 15.90	$ 15.90	$ 15.90	$ 15.83
Low Growth & High Price	2022-2023	Apr	$ 14.93	$ 15.69	$ 14.93	$ 14.93	$ 14.93	$ 15.30	$ 15.30	$ 15.82	$ 15.48	$ 15.06
Low Growth & High Price	2022-2023	May	$ 15.04	$ 15.70	$ 15.04	$ 15.04	$ 15.04	$ 15.43	$ 15.43	$ 15.82	$ 15.56	$ 15.17
Low Growth & High Price	2022-2023	Jun	$ 15.13	$ 15.70	$ 15.13	$ 15.13	$ 15.13	$ 15.53	$ 15.53	$ 15.82	$ 15.63	$ 15.24
Low Growth & High Price	2022-2023	Jul	$ 15.28	$ 15.83	$ 15.28	$ 15.28	$ 15.28	$ 15.66	$ 15.66	$ 15.83	$ 15.71	$ 15.39
Low Growth & High Price	2022-2023	Aug	$ 15.32	$ 15.83	$ 15.32	$ 15.32	$ 15.32	$ 15.70	$ 15.70	$ 15.83	$ 15.74	$ 15.42
Low Growth & High Price	2022-2023	Sep	$ 15.38	$ 15.83	$ 15.38	$ 15.38	$ 15.38	$ 15.66	$ 15.66	$ 15.83	$ 15.72	$ 15.47
Low Growth & High Price	2022-2023	Oct	$ 15.42	$ 15.90	$ 15.42	$ 15.42	$ 15.42	$ 15.69	$ 15.69	$ 15.90	$ 15.76	$ 15.51
Low Growth & High Price	2023-2024	Nov	$ 16.53	$ 16.77	$ 16.53	$ 16.53	$ 16.53	$ 16.53	$ 16.53	$ 16.77	$ 16.61	$ 16.58
Low Growth & High Price	2023-2024	Dec	$ 16.69	$ 16.90	$ 16.71	$ 16.71	$ 16.71	$ 16.76	$ 16.64	$ 16.90	$ 16.77	$ 16.74
Low Growth & High Price	2023-2024	Jan	$ 16.64	$ 16.95	$ 16.64	$ 16.64	$ 16.64	$ 16.85	$ 16.71	$ 16.96	$ 16.84	$ 16.70
Low Growth & High Price	2023-2024	Feb	$ 16.67	$ 16.79	$ 16.68	$ 16.68	$ 16.68	$ 16.75	$ 16.75	$ 16.75	$ 16.75	$ 16.70
Low Growth & High Price	2023-2024	Mar	$ 16.12	$ 16.21	$ 16.12	$ 16.12	$ 16.12	$ 16.21	$ 16.21	$ 16.21	$ 16.21	$ 16.14
Low Growth & High Price	2023-2024	Apr	$ 15.23	$ 16.02	$ 15.23	$ 15.23	$ 15.23	$ 15.61	$ 15.61	$ 16.12	$ 15.78	$ 15.38
Low Growth & High Price	2023-2024	May	$ 15.33	$ 16.02	$ 15.33	$ 15.33	$ 15.33	$ 15.72	$ 15.72	$ 16.12	$ 15.85	$ 15.47
Low Growth & High Price	2023-2024	Jun	$ 15.45	$ 16.04	$ 15.45	$ 15.45	$ 15.45	$ 15.83	$ 15.83	$ 16.13	$ 15.93	$ 15.57
Low Growth & High Price	2023-2024	Jul	$ 15.56	$ 16.13	$ 15.56	$ 15.56	$ 15.56	$ 15.94	$ 15.94	$ 16.13	$ 16.00	$ 15.67
Low Growth & High Price	2023-2024	Aug	$ 15.63	$ 16.13	$ 15.63	$ 15.63	$ 15.63	$ 16.00	$ 16.00	$ 16.13	$ 16.05	$ 15.73
Low Growth & High Price	2023-2024	Sep	$ 15.66	$ 16.13	$ 15.66	$ 15.66	$ 15.66	$ 15.97	$ 15.97	$ 16.13	$ 16.03	$ 15.75
Low Growth & High Price	2023-2024	Oct	$ 15.78	$ 16.24	$ 15.78	$ 15.78	$ 15.78	$ 16.01	$ 16.01	$ 16.24	$ 16.09	$ 15.87
Low Growth & High Price	2024-2025	Nov	$ 16.91	$ 17.07	$ 16.91	$ 16.91	$ 16.91	$ 16.83	$ 16.83	$ 17.07	$ 16.91	$ 16.94
Low Growth & High Price	2024-2025	Dec	$ 17.06	$ 17.23	$ 17.07	$ 17.07	$ 17.07	$ 17.09	$ 16.97	$ 17.23	$ 17.10	$ 17.10
Low Growth & High Price	2024-2025	Jan	$ 16.95	$ 17.26	$ 16.95	$ 16.95	$ 16.95	$ 17.15	$ 17.02	$ 17.26	$ 17.14	$ 17.01
Low Growth & High Price	2024-2025	Feb	$ 16.99	$ 17.10	$ 17.00	$ 17.00	$ 17.00	$ 17.06	$ 17.06	$ 17.06	$ 17.06	$ 17.02
Low Growth & High Price	2024-2025	Mar	$ 16.36	$ 16.46	$ 16.36	$ 16.36	$ 16.36	$ 16.46	$ 16.46	$ 16.46	$ 16.46	$ 16.38
Low Growth & High Price	2024-2025	Apr	$ 15.48	$ 16.29	$ 15.48	$ 15.48	$ 15.48	$ 15.88	$ 15.88	$ 16.37	$ 16.05	$ 15.64
Low Growth & High Price	2024-2025	May	$ 15.59	$ 16.29	$ 15.59	$ 15.59	$ 15.59	$ 15.99	$ 15.99	$ 16.38	$ 16.12	$ 15.73
Low Growth & High Price	2024-2025	Jun	$ 15.70	$ 16.31	$ 15.70	$ 15.70	$ 15.70	$ 16.10	$ 16.10	$ 16.38	$ 16.20	$ 15.82

Appendix 6.4 - Monthly Avoided Cost Detail 1/

2009$

Scenario	Gas Year	Month	Klam Falls	La Grande	Medford GTN	Medford NWP	Roseburg	Wa/Id Both	Wa/Id GTN	Wa/Id NWP	WA/ID Annual	OR Annual
Low Growth & High Price	2024-2025	Jul	$ 15.81	$ 16.38	$ 15.81	$ 15.81	$ 15.81	$ 16.23	$ 16.23	$ 16.38	$ 16.28	$ 15.92
Low Growth & High Price	2024-2025	Aug	$ 15.90	$ 16.38	$ 15.90	$ 15.90	$ 15.90	$ 16.29	$ 16.29	$ 16.38	$ 16.32	$ 15.93
Low Growth & High Price	2024-2025	Sep	$ 15.93	$ 16.38	$ 15.93	$ 15.93	$ 15.93	$ 16.24	$ 16.24	$ 16.38	$ 16.29	$ 16.02
Low Growth & High Price	2024-2025	Oct	$ 16.03	$ 16.53	$ 16.03	$ 16.03	$ 16.03	$ 16.28	$ 16.28	$ 16.53	$ 16.36	$ 16.13
Low Growth & High Price	2025-2026	Nov	$ 17.28	$ 17.40	$ 17.28	$ 17.28	$ 17.28	$ 17.16	$ 17.16	$ 17.40	$ 17.24	$ 17.30
Low Growth & High Price	2025-2026	Dec	$ 17.27	$ 17.52	$ 17.33	$ 17.33	$ 17.33	$ 17.40	$ 17.20	$ 17.52	$ 17.37	$ 17.35
Low Growth & High Price	2025-2026	Jan	$ 17.56	$ 17.87	$ 17.56	$ 17.56	$ 17.56	$ 17.76	$ 17.62	$ 17.87	$ 17.75	$ 17.62
Low Growth & High Price	2025-2026	Feb	$ 17.59	$ 17.71	$ 17.59	$ 17.59	$ 17.59	$ 17.67	$ 17.66	$ 17.67	$ 17.67	$ 17.61
Low Growth & High Price	2025-2026	Mar	$ 17.02	$ 17.09	$ 17.02	$ 17.02	$ 17.02	$ 17.09	$ 17.09	$ 17.09	$ 17.09	$ 17.03
Low Growth & High Price	2025-2026	Apr	$ 16.06	$ 16.89	$ 16.06	$ 16.06	$ 16.06	$ 16.49	$ 16.49	$ 17.00	$ 16.66	$ 16.22
Low Growth & High Price	2025-2026	May	$ 16.17	$ 16.89	$ 16.17	$ 16.17	$ 16.17	$ 16.60	$ 16.60	$ 17.00	$ 16.73	$ 16.31
Low Growth & High Price	2025-2026	Jun	$ 16.28	$ 16.92	$ 16.28	$ 16.28	$ 16.28	$ 16.71	$ 16.71	$ 17.00	$ 16.81	$ 16.41
Low Growth & High Price	2025-2026	Jul	$ 16.39	$ 17.00	$ 16.39	$ 16.39	$ 16.39	$ 16.83	$ 16.83	$ 17.00	$ 16.89	$ 16.51
Low Growth & High Price	2025-2026	Aug	$ 16.46	$ 17.01	$ 16.46	$ 16.46	$ 16.46	$ 16.88	$ 16.88	$ 17.01	$ 16.92	$ 16.57
Low Growth & High Price	2025-2026	Sep	$ 16.49	$ 17.01	$ 16.49	$ 16.49	$ 16.49	$ 16.83	$ 16.83	$ 17.01	$ 16.89	$ 16.59
Low Growth & High Price	2025-2026	Oct	$ 16.62	$ 17.07	$ 16.62	$ 16.62	$ 16.62	$ 16.87	$ 16.87	$ 17.07	$ 16.94	$ 16.71
Low Growth & High Price	2026-2027	Nov	$ 17.76	$ 17.94	$ 17.76	$ 17.76	$ 17.76	$ 17.68	$ 17.68	$ 17.94	$ 17.77	$ 17.79
Low Growth & High Price	2026-2027	Dec	$ 17.85	$ 18.15	$ 17.91	$ 17.91	$ 17.91	$ 17.97	$ 17.78	$ 18.15	$ 17.97	$ 17.94
Low Growth & High Price	2026-2027	Jan	$ 18.16	$ 18.48	$ 18.16	$ 18.16	$ 18.16	$ 18.36	$ 18.22	$ 18.48	$ 18.36	$ 18.22
Low Growth & High Price	2026-2027	Feb	$ 18.26	$ 18.36	$ 18.26	$ 18.26	$ 18.26	$ 18.33	$ 18.32	$ 18.33	$ 18.33	$ 18.28
Low Growth & High Price	2026-2027	Mar	$ 17.70	$ 17.72	$ 17.70	$ 17.70	$ 17.70	$ 17.72	$ 17.72	$ 17.72	$ 17.72	$ 17.70
Low Growth & High Price	2026-2027	Apr	$ 16.73	$ 17.59	$ 16.73	$ 16.73	$ 16.73	$ 17.14	$ 17.14	$ 17.63	$ 17.30	$ 16.90
Low Growth & High Price	2026-2027	May	$ 16.84	$ 17.59	$ 16.84	$ 16.84	$ 16.84	$ 17.25	$ 17.25	$ 17.63	$ 17.38	$ 16.99
Low Growth & High Price	2026-2027	Jun	$ 16.94	$ 17.62	$ 16.94	$ 16.94	$ 16.94	$ 17.35	$ 17.35	$ 17.64	$ 17.44	$ 17.07
Low Growth & High Price	2026-2027	Jul	$ 17.05	$ 17.64	$ 17.05	$ 17.05	$ 17.05	$ 17.46	$ 17.46	$ 17.64	$ 17.52	$ 17.17
Low Growth & High Price	2026-2027	Aug	$ 17.16	$ 17.64	$ 17.16	$ 17.16	$ 17.16	$ 17.56	$ 17.56	$ 17.64	$ 17.59	$ 17.25
Low Growth & High Price	2026-2027	Sep	$ 17.14	$ 17.64	$ 17.14	$ 17.14	$ 17.14	$ 17.46	$ 17.46	$ 17.64	$ 17.52	$ 17.24
Low Growth & High Price	2026-2027	Oct	$ 17.25	$ 17.79	$ 17.25	$ 17.25	$ 17.25	$ 17.49	$ 17.49	$ 17.79	$ 17.59	$ 17.36
Low Growth & High Price	2027-2028	Nov	$ 18.39	$ 18.57	$ 18.39	$ 18.39	$ 18.39	$ 18.31	$ 18.31	$ 18.57	$ 18.40	$ 18.43
Low Growth & High Price	2027-2028	Dec	$ 18.46	$ 18.80	$ 18.54	$ 18.54	$ 18.54	$ 18.61	$ 18.42	$ 18.81	$ 18.61	$ 18.58
Low Growth & High Price	2027-2028	Jan	$ 18.81	$ 19.14	$ 18.81	$ 18.81	$ 18.81	$ 19.02	$ 18.88	$ 19.14	$ 19.01	$ 18.88
Low Growth & High Price	2027-2028	Feb	$ 18.91	$ 19.03	$ 18.91	$ 18.91	$ 18.91	$ 18.98	$ 18.99	$ 18.98	$ 18.99	$ 18.94
Low Growth & High Price	2027-2028	Mar	$ 18.33	$ 18.37	$ 18.33	$ 18.33	$ 18.33	$ 18.37	$ 18.37	$ 18.37	$ 18.37	$ 18.34
Low Growth & High Price	2027-2028	Apr	$ 17.37	$ 18.23	$ 17.37	$ 17.37	$ 17.37	$ 17.77	$ 17.77	$ 18.28	$ 17.94	$ 17.54
Low Growth & High Price	2027-2028	May	$ 17.48	$ 18.23	$ 17.48	$ 17.48	$ 17.48	$ 17.90	$ 17.90	$ 18.28	$ 18.02	$ 17.63
Low Growth & High Price	2027-2028	Jun	$ 17.58	$ 18.27	$ 17.58	$ 17.58	$ 17.58	$ 18.00	$ 18.00	$ 18.28	$ 18.09	$ 17.72
Low Growth & High Price	2027-2028	Jul	$ 17.70	$ 18.28	$ 17.70	$ 17.70	$ 17.70	$ 18.12	$ 18.12	$ 18.28	$ 18.17	$ 17.82
Low Growth & High Price	2027-2028	Aug	$ 17.81	$ 18.29	$ 17.81	$ 17.81	$ 17.81	$ 18.22	$ 18.22	$ 18.29	$ 18.24	$ 17.90
Low Growth & High Price	2027-2028	Sep	$ 17.79	$ 18.29	$ 17.79	$ 17.79	$ 17.79	$ 18.12	$ 18.12	$ 18.29	$ 18.17	$ 17.89
Low Growth & High Price	2027-2028	Oct	$ 17.89	$ 18.44	$ 17.89	$ 17.89	$ 17.89	$ 18.14	$ 18.14	$ 18.44	$ 18.24	$ 18.00
Low Growth & High Price	2028-2029	Nov	$ 19.05	$ 19.25	$ 19.05	$ 19.05	$ 19.05	$ 18.98	$ 18.98	$ 19.25	$ 19.07	$ 19.09
Low Growth & High Price	2028-2029	Dec	$ 19.15	$ 19.48	$ 19.23	$ 19.23	$ 19.23	$ 19.29	$ 19.10	$ 19.48	$ 19.29	$ 19.26
Low Growth & High Price	2028-2029	Jan	$ 19.49	$ 19.84	$ 19.49	$ 19.49	$ 19.49	$ 19.72	$ 19.58	$ 19.84	$ 19.71	$ 19.56
Low Growth & High Price	2028-2029	Feb	$ 19.61	$ 19.72	$ 19.61	$ 19.61	$ 19.61	$ 19.69	$ 19.68	$ 19.69	$ 19.68	$ 19.63
Low Growth & High Price	2028-2029	Mar	$ 18.99	$ 19.04	$ 18.99	$ 18.99	$ 18.99	$ 19.04	$ 19.04	$ 19.04	$ 19.04	$ 19.00
Low Growth & High Price	2028-2029	Apr	$ 18.03	$ 18.90	$ 18.03	$ 18.03	$ 18.03	$ 18.44	$ 18.44	$ 18.95	$ 18.61	$ 18.20
Low Growth & High Price	2028-2029	May	$ 18.15	$ 18.90	$ 18.15	$ 18.15	$ 18.15	$ 18.57	$ 18.57	$ 18.95	$ 18.70	$ 18.30
Low Growth & High Price	2028-2029	Jun	$ 18.26	$ 18.95	$ 18.26	$ 18.26	$ 18.26	$ 18.69	$ 18.69	$ 18.95	$ 18.77	$ 18.40
Low Growth & High Price	2028-2029	Jul	$ 18.37	$ 18.95	$ 18.37	$ 18.37	$ 18.37	$ 18.81	$ 18.81	$ 18.95	$ 18.86	$ 18.49
Low Growth & High Price	2028-2029	Aug	$ 18.49	$ 18.97	$ 18.49	$ 18.49	$ 18.49	$ 18.91	$ 18.91	$ 18.97	$ 18.93	$ 18.59
Low Growth & High Price	2028-2029	Sep	$ 18.46	$ 18.96	$ 18.46	$ 18.46	$ 18.46	$ 18.80	$ 18.80	$ 18.96	$ 18.85	$ 18.56
Low Growth & High Price	2028-2029	Oct	$ 18.57	$ 19.12	$ 18.57	$ 18.57	$ 18.57	$ 18.82	$ 18.82	$ 19.12	$ 18.92	$ 18.68

1/ Avoided costs shown before Environmental Externalities adder.

Appendix 6.4 - Monthly Avoided Cost Detail 1/

2009$

Scenario	Gas Year	Month	Klam Falls	La Grande	Medford GTN	Medford NWP	Roseburg	Wa/Id Both	Wa/Id GTN	Wa/Id NWP	WA/ID Annual	OR Annual
Expected	2009-2010	Nov	$ 4.03	$ 4.03	$ 4.03	$ 4.03	$ 4.03	$ 3.96	$ 3.96	$ 4.03	$ 3.98	$ 4.03
Expected	2009-2010	Dec	$ 4.60	$ 4.58	$ 9.58	$ 9.58	$ 9.58	$ 4.52	$ 4.52	$ 4.58	$ 4.54	$ 7.58
Expected	2009-2010	Jan	$ 4.71	$ 4.68	$ 4.70	$ 4.70	$ 4.70	$ 4.65	$ 4.65	$ 4.66	$ 4.65	$ 4.70
Expected	2009-2010	Feb	$ 4.70	$ 4.70	$ 4.70	$ 4.70	$ 4.70	$ 4.63	$ 4.63	$ 4.63	$ 4.63	$ 4.70
Expected	2009-2010	Mar	$ 4.63	$ 4.57	$ 4.60	$ 4.60	$ 4.60	$ 4.57	$ 4.58	$ 4.57	$ 4.57	$ 4.60
Expected	2009-2010	Apr	$ 4.46	$ 4.41	$ 4.41	$ 4.41	$ 4.41	$ 4.38	$ 4.38	$ 4.41	$ 4.39	$ 4.42
Expected	2009-2010	May	$ 4.36	$ 4.33	$ 4.33	$ 4.33	$ 4.33	$ 4.28	$ 4.28	$ 4.41	$ 4.33	$ 4.34
Expected	2009-2010	Jun	$ 4.46	$ 4.41	$ 4.41	$ 4.41	$ 4.41	$ 4.39	$ 4.39	$ 4.41	$ 4.40	$ 4.42
Expected	2009-2010	Jul	$ 4.46	$ 4.41	$ 4.41	$ 4.41	$ 4.41	$ 4.40	$ 4.40	$ 4.41	$ 4.41	$ 4.42
Expected	2009-2010	Aug	$ 4.47	$ 4.42	$ 4.42	$ 4.42	$ 4.42	$ 4.42	$ 4.47	$ 4.42	$ 4.44	$ 4.43
Expected	2009-2010	Sep	$ 4.52	$ 4.47	$ 4.47	$ 4.47	$ 4.47	$ 4.47	$ 4.47	$ 4.47	$ 4.47	$ 4.48
Expected	2009-2010	Oct	$ 4.72	$ 4.68	$ 4.68	$ 4.68	$ 4.68	$ 4.64	$ 4.64	$ 4.68	$ 4.65	$ 4.69
Expected	2010-2011	Nov	$ 4.95	$ 4.98	$ 4.95	$ 4.95	$ 4.95	$ 4.86	$ 4.86	$ 4.98	$ 4.90	$ 4.95
Expected	2010-2011	Dec	$ 5.20	$ 5.21	$ 10.17	$ 10.17	$ 10.17	$ 5.13	$ 5.13	$ 5.21	$ 5.16	$ 8.18
Expected	2010-2011	Jan	$ 5.34	$ 5.34	$ 5.34	$ 5.34	$ 5.34	$ 5.27	$ 5.27	$ 5.28	$ 5.27	$ 5.34
Expected	2010-2011	Feb	$ 5.35	$ 5.36	$ 5.36	$ 5.36	$ 5.36	$ 5.27	$ 5.28	$ 5.27	$ 5.27	$ 5.36
Expected	2010-2011	Mar	$ 5.12	$ 5.07	$ 5.10	$ 5.10	$ 5.10	$ 5.03	$ 5.03	$ 5.06	$ 5.04	$ 5.10
Expected	2010-2011	Apr	$ 4.88	$ 4.91	$ 4.88	$ 4.88	$ 4.88	$ 4.79	$ 4.79	$ 4.91	$ 4.83	$ 4.88
Expected	2010-2011	May	$ 4.89	$ 4.91	$ 4.89	$ 4.89	$ 4.89	$ 4.80	$ 4.80	$ 4.91	$ 4.84	$ 4.89
Expected	2010-2011	Jun	$ 4.95	$ 4.91	$ 4.91	$ 4.91	$ 4.91	$ 4.86	$ 4.86	$ 4.91	$ 4.88	$ 4.92
Expected	2010-2011	Jul	$ 4.97	$ 4.91	$ 4.91	$ 4.91	$ 4.91	$ 4.88	$ 4.88	$ 4.91	$ 4.89	$ 4.92
Expected	2010-2011	Aug	$ 4.97	$ 4.91	$ 4.91	$ 4.91	$ 4.91	$ 4.91	$ 4.93	$ 4.91	$ 4.92	$ 4.92
Expected	2010-2011	Sep	$ 4.97	$ 4.91	$ 4.91	$ 4.91	$ 4.91	$ 4.89	$ 4.89	$ 4.91	$ 4.90	$ 4.92
Expected	2010-2011	Oct	$ 5.12	$ 5.06	$ 5.06	$ 5.06	$ 5.06	$ 5.03	$ 5.03	$ 5.06	$ 5.04	$ 5.07
Expected	2011-2012	Nov	$ 5.25	$ 5.26	$ 5.25	$ 5.25	$ 5.25	$ 5.15	$ 5.15	$ 5.26	$ 5.19	$ 5.25
Expected	2011-2012	Dec	$ 5.41	$ 5.38	$ 10.38	$ 10.38	$ 10.38	$ 5.33	$ 5.33	$ 5.38	$ 5.35	$ 8.39
Expected	2011-2012	Jan	$ 5.48	$ 5.45	$ 5.47	$ 5.47	$ 5.47	$ 5.40	$ 5.40	$ 5.42	$ 5.41	$ 5.47
Expected	2011-2012	Feb	$ 5.48	$ 5.47	$ 5.47	$ 5.47	$ 5.47	$ 5.36	$ 5.39	$ 5.36	$ 5.37	$ 5.47
Expected	2011-2012	Mar	$ 5.32	$ 5.26	$ 5.28	$ 5.28	$ 5.28	$ 5.25	$ 5.25	$ 5.26	$ 5.25	$ 5.29
Expected	2011-2012	Apr	$ 5.08	$ 5.05	$ 5.05	$ 5.05	$ 5.05	$ 4.99	$ 4.99	$ 5.05	$ 5.01	$ 5.06
Expected	2011-2012	May	$ 5.05	$ 5.05	$ 5.05	$ 5.05	$ 5.05	$ 4.96	$ 4.96	$ 5.05	$ 4.99	$ 5.05
Expected	2011-2012	Jun	$ 5.10	$ 5.05	$ 5.05	$ 5.05	$ 5.05	$ 5.01	$ 5.01	$ 5.05	$ 5.02	$ 5.06
Expected	2011-2012	Jul	$ 5.09	$ 5.05	$ 5.05	$ 5.05	$ 5.05	$ 5.00	$ 5.00	$ 5.05	$ 5.02	$ 5.06
Expected	2011-2012	Aug	$ 5.11	$ 5.05	$ 5.05	$ 5.05	$ 5.05	$ 5.03	$ 5.03	$ 5.05	$ 5.04	$ 5.06
Expected	2011-2012	Sep	$ 5.11	$ 5.05	$ 5.05	$ 5.05	$ 5.05	$ 5.05	$ 5.07	$ 5.05	$ 5.06	$ 5.06
Expected	2011-2012	Oct	$ 5.27	$ 5.21	$ 5.21	$ 5.21	$ 5.21	$ 5.20	$ 5.20	$ 5.21	$ 5.21	$ 5.22
Expected	2012-2013	Nov	$ 5.42	$ 5.35	$ 5.39	$ 5.39	$ 5.39	$ 5.33	$ 5.33	$ 5.35	$ 5.34	$ 5.39
Expected	2012-2013	Dec	$ 5.53	$ 5.46	$ 11.02	$ 11.02	$ 11.02	$ 5.46	$ 5.46	$ 5.46	$ 5.46	$ 8.81
Expected	2012-2013	Jan	$ 5.59	$ 5.51	$ 5.57	$ 5.57	$ 5.57	$ 5.51	$ 5.51	$ 5.51	$ 5.51	$ 5.56
Expected	2012-2013	Feb	$ 5.58	$ 5.51	$ 5.56	$ 5.56	$ 5.56	$ 5.49	$ 5.53	$ 5.49	$ 5.50	$ 5.55
Expected	2012-2013	Mar	$ 5.39	$ 5.33	$ 5.35	$ 5.35	$ 5.35	$ 5.33	$ 5.36	$ 5.33	$ 5.34	$ 5.35
Expected	2012-2013	Apr	$ 5.22	$ 5.17	$ 5.17	$ 5.17	$ 5.17	$ 5.12	$ 5.12	$ 5.17	$ 5.14	$ 5.18
Expected	2012-2013	May	$ 5.17	$ 5.17	$ 5.17	$ 5.17	$ 5.17	$ 5.08	$ 5.08	$ 5.17	$ 5.11	$ 5.17
Expected	2012-2013	Jun	$ 5.22	$ 5.17	$ 5.17	$ 5.17	$ 5.17	$ 5.12	$ 5.12	$ 5.17	$ 5.14	$ 5.18
Expected	2012-2013	Jul	$ 5.20	$ 5.17	$ 5.17	$ 5.17	$ 5.17	$ 5.10	$ 5.10	$ 5.17	$ 5.13	$ 5.18
Expected	2012-2013	Aug	$ 5.24	$ 5.17	$ 5.17	$ 5.17	$ 5.17	$ 5.14	$ 5.14	$ 5.17	$ 5.15	$ 5.19
Expected	2012-2013	Sep	$ 5.24	$ 5.17	$ 5.17	$ 5.17	$ 5.17	$ 5.17	$ 5.17	$ 5.17	$ 5.17	$ 5.19
Expected	2012-2013	Oct	$ 5.36	$ 5.30	$ 5.30	$ 5.30	$ 5.30	$ 5.30	$ 5.30	$ 5.30	$ 5.30	$ 5.31
Expected	2013-2014	Nov	$ 4.76	$ 4.70	$ 4.75	$ 4.75	$ 4.75	$ 4.68	$ 4.68	$ 4.70	$ 4.69	$ 4.74
Expected	2013-2014	Dec	$ 4.84	$ 4.80	$ 10.92	$ 10.92	$ 10.92	$ 4.77	$ 4.77	$ 4.80	$ 4.78	$ 8.48
Expected	2013-2014	Jan	$ 4.98	$ 4.91	$ 4.96	$ 4.96	$ 4.96	$ 4.91	$ 4.91	$ 4.91	$ 4.91	$ 4.95
Expected	2013-2014	Feb	$ 4.91	$ 4.85	$ 4.89	$ 4.89	$ 4.89	$ 4.85	$ 4.94	$ 4.85	$ 4.88	$ 4.89
Expected	2013-2014	Mar	$ 4.77	$ 4.71	$ 4.73	$ 4.73	$ 4.73	$ 4.71	$ 4.72	$ 4.71	$ 4.71	$ 4.74
Expected	2013-2014	Apr	$ 4.69	$ 4.66	$ 4.66	$ 4.66	$ 4.66	$ 4.61	$ 4.61	$ 4.66	$ 4.62	$ 4.66
Expected	2013-2014	May	$ 4.69	$ 4.66	$ 4.66	$ 4.66	$ 4.66	$ 4.61	$ 4.61	$ 4.66	$ 4.62	$ 4.66
Expected	2013-2014	Jun	$ 4.70	$ 4.66	$ 4.66	$ 4.66	$ 4.66	$ 4.62	$ 4.62	$ 4.66	$ 4.63	$ 4.66
Expected	2013-2014	Jul	$ 4.66	$ 4.66	$ 4.66	$ 4.66	$ 4.66	$ 4.58	$ 4.58	$ 4.66	$ 4.60	$ 4.66
Expected	2013-2014	Aug	$ 4.68	$ 4.66	$ 4.66	$ 4.66	$ 4.66	$ 4.60	$ 4.60	$ 4.66	$ 4.62	$ 4.66
Expected	2013-2014	Sep	$ 4.71	$ 4.66	$ 4.66	$ 4.66	$ 4.66	$ 4.63	$ 4.63	$ 4.66	$ 4.64	$ 4.67
Expected	2013-2014	Oct	$ 4.80	$ 4.74	$ 4.74	$ 4.74	$ 4.74	$ 4.74	$ 4.74	$ 4.74	$ 4.74	$ 4.75
Expected	2014-2015	Nov	$ 5.73	$ 5.66	$ 5.72	$ 5.72	$ 5.72	$ 5.63	$ 5.63	$ 5.66	$ 5.64	$ 5.71
Expected	2014-2015	Dec	$ 5.81	$ 5.91	$ 12.52	$ 12.52	$ 12.52	$ 5.84	$ 5.84	$ 5.93	$ 5.87	$ 9.86
Expected	2014-2015	Jan	$ 6.75	$ 6.65	$ 6.72	$ 6.72	$ 6.72	$ 6.65	$ 6.65	$ 6.65	$ 6.65	$ 6.71
Expected	2014-2015	Feb	$ 6.66	$ 6.58	$ 6.64	$ 6.64	$ 6.64	$ 6.58	$ 6.69	$ 6.58	$ 6.61	$ 6.63
Expected	2014-2015	Mar	$ 6.51	$ 6.43	$ 6.46	$ 6.46	$ 6.46	$ 6.43	$ 6.45	$ 6.43	$ 6.44	$ 6.46
Expected	2014-2015	Apr	$ 6.42	$ 6.38	$ 6.38	$ 6.38	$ 6.38	$ 6.33	$ 6.33	$ 6.38	$ 6.34	$ 6.39
Expected	2014-2015	May	$ 6.43	$ 6.38	$ 6.38	$ 6.38	$ 6.38	$ 6.34	$ 6.34	$ 6.38	$ 6.35	$ 6.39
Expected	2014-2015	Jun	$ 6.44	$ 6.38	$ 6.38	$ 6.38	$ 6.38	$ 6.35	$ 6.35	$ 6.38	$ 6.36	$ 6.39
Expected	2014-2015	Jul	$ 6.43	$ 6.38	$ 6.38	$ 6.38	$ 6.38	$ 6.33	$ 6.33	$ 6.38	$ 6.34	$ 6.39
Expected	2014-2015	Aug	$ 6.45	$ 6.38	$ 6.38	$ 6.38	$ 6.38	$ 6.35	$ 6.35	$ 6.38	$ 6.36	$ 6.39
Expected	2014-2015	Sep	$ 6.45	$ 6.38	$ 6.38	$ 6.38	$ 6.38	$ 6.38	$ 6.38	$ 6.38	$ 6.38	$ 6.39
Expected	2014-2015	Oct	$ 6.58	$ 6.50	$ 6.50	$ 6.50	$ 6.50	$ 6.50	$ 6.50	$ 6.50	$ 6.50	$ 6.52
Expected	2015-2016	Nov	$ 6.95	$ 6.87	$ 6.91	$ 6.91	$ 6.91	$ 6.83	$ 6.83	$ 6.87	$ 6.84	$ 6.91
Expected	2015-2016	Dec	$ 7.01	$ 6.93	$ 14.41	$ 14.41	$ 14.41	$ 6.93	$ 6.93	$ 6.93	$ 6.93	$ 11.44
Expected	2015-2016	Jan	$ 7.02	$ 6.93	$ 7.00	$ 7.00	$ 7.00	$ 6.93	$ 6.93	$ 6.93	$ 6.93	$ 6.99
Expected	2015-2016	Feb	$ 6.98	$ 6.87	$ 6.96	$ 6.96	$ 6.96	$ 6.87	$ 6.95	$ 6.87	$ 6.90	$ 6.95
Expected	2015-2016	Mar	$ 6.81	$ 6.75	$ 6.79	$ 6.79	$ 6.79	$ 6.75	$ 6.77	$ 6.75	$ 6.76	$ 6.79
Expected	2015-2016	Apr	$ 6.72	$ 6.69	$ 6.69	$ 6.69	$ 6.69	$ 6.63	$ 6.63	$ 6.69	$ 6.65	$ 6.70
Expected	2015-2016	May	$ 6.72	$ 6.69	$ 6.69	$ 6.69	$ 6.69	$ 6.63	$ 6.63	$ 6.69	$ 6.65	$ 6.70
Expected	2015-2016	Jun	$ 6.74	$ 6.69	$ 6.69	$ 6.69	$ 6.69	$ 6.66	$ 6.66	$ 6.69	$ 6.67	$ 6.70
Expected	2015-2016	Jul	$ 6.73	$ 6.69	$ 6.69	$ 6.69	$ 6.69	$ 6.63	$ 6.63	$ 6.69	$ 6.65	$ 6.70
Expected	2015-2016	Aug	$ 6.76	$ 6.69	$ 6.69	$ 6.69	$ 6.69	$ 6.66	$ 6.66	$ 6.69	$ 6.67	$ 6.71
Expected	2015-2016	Sep	$ 6.77	$ 6.69	$ 6.69	$ 6.69	$ 6.69	$ 6.69	$ 6.69	$ 6.69	$ 6.69	$ 6.71
Expected	2015-2016	Oct	$ 6.89	$ 6.81	$ 6.81	$ 6.81	$ 6.81	$ 6.81	$ 6.81	$ 6.81	$ 6.81	$ 6.83
Expected	2016-2017	Nov	$ 7.25	$ 7.17	$ 7.22	$ 7.22	$ 7.22	$ 7.14	$ 7.14	$ 7.17	$ 7.15	$ 7.21
Expected	2016-2017	Dec	$ 7.32	$ 7.24	$ 15.50	$ 15.50	$ 15.50	$ 7.24	$ 7.24	$ 7.24	$ 7.24	$ 12.21
Expected	2016-2017	Jan	$ 7.35	$ 7.26	$ 7.33	$ 7.33	$ 7.33	$ 7.26	$ 7.26	$ 7.26	$ 7.26	$ 7.32

Appendix 6.4 - Monthly Avoided Cost Detail 1/

2009$

Scenario	Gas Year	Month	Klam Falls	La Grande	Medford GTN	Medford NWP	Roseburg	Wa/Id Both	Wa/Id GTN	Wa/Id NWP	WA/ID Annual	OR Annual
Expected	2016-2017	Feb	$ 7.33	$ 7.06	$ 7.34	$ 7.34	$ 7.34	$ 7.05	$ 7.29	$ 7.05	$ 7.13	$ 7.28
Expected	2016-2017	Mar	$ 6.85	$ 6.78	$ 6.83	$ 6.83	$ 6.83	$ 6.78	$ 6.78	$ 6.78	$ 6.78	$ 6.82
Expected	2016-2017	Apr	$ 6.76	$ 6.75	$ 6.75	$ 6.75	$ 6.75	$ 6.66	$ 6.66	$ 6.75	$ 6.69	$ 6.76
Expected	2016-2017	May	$ 6.76	$ 6.75	$ 6.75	$ 6.75	$ 6.75	$ 6.66	$ 6.66	$ 6.75	$ 6.69	$ 6.76
Expected	2016-2017	Jun	$ 6.78	$ 6.75	$ 6.75	$ 6.75	$ 6.75	$ 6.68	$ 6.68	$ 6.75	$ 6.71	$ 6.76
Expected	2016-2017	Jul	$ 6.76	$ 6.75	$ 6.75	$ 6.75	$ 6.75	$ 6.65	$ 6.65	$ 6.75	$ 6.69	$ 6.76
Expected	2016-2017	Aug	$ 6.79	$ 6.75	$ 6.75	$ 6.75	$ 6.75	$ 6.67	$ 6.67	$ 6.75	$ 6.70	$ 6.76
Expected	2016-2017	Sep	$ 6.83	$ 6.75	$ 6.75	$ 6.75	$ 6.75	$ 6.71	$ 6.71	$ 6.75	$ 6.73	$ 6.77
Expected	2016-2017	Oct	$ 6.91	$ 6.83	$ 6.83	$ 6.83	$ 6.83	$ 6.83	$ 6.83	$ 6.83	$ 6.83	$ 6.85
Expected	2017-2018	Nov	$ 7.27	$ 7.19	$ 7.24	$ 7.24	$ 7.24	$ 7.16	$ 7.16	$ 7.19	$ 7.17	$ 7.23
Expected	2017-2018	Dec	$ 7.34	$ 7.27	$ 16.32	$ 16.32	$ 16.32	$ 7.27	$ 7.27	$ 7.27	$ 7.27	$ 12.71
Expected	2017-2018	Jan	$ 7.37	$ 7.28	$ 7.35	$ 7.35	$ 7.35	$ 7.28	$ 7.28	$ 7.28	$ 7.28	$ 7.34
Expected	2017-2018	Feb	$ 7.36	$ 7.04	$ 7.36	$ 7.36	$ 7.36	$ 7.03	$ 7.31	$ 7.03	$ 7.13	$ 7.30
Expected	2017-2018	Mar	$ 6.79	$ 6.72	$ 6.77	$ 6.77	$ 6.77	$ 6.72	$ 6.73	$ 6.72	$ 6.73	$ 6.76
Expected	2017-2018	Apr	$ 6.68	$ 6.67	$ 6.67	$ 6.67	$ 6.67	$ 6.59	$ 6.59	$ 6.67	$ 6.62	$ 6.67
Expected	2017-2018	May	$ 6.67	$ 6.67	$ 6.67	$ 6.67	$ 6.67	$ 6.56	$ 6.56	$ 6.67	$ 6.60	$ 6.67
Expected	2017-2018	Jun	$ 6.69	$ 6.67	$ 6.67	$ 6.67	$ 6.67	$ 6.59	$ 6.59	$ 6.67	$ 6.62	$ 6.67
Expected	2017-2018	Jul	$ 6.67	$ 6.67	$ 6.67	$ 6.67	$ 6.67	$ 6.56	$ 6.56	$ 6.67	$ 6.60	$ 6.67
Expected	2017-2018	Aug	$ 6.71	$ 6.67	$ 6.67	$ 6.67	$ 6.67	$ 6.60	$ 6.60	$ 6.67	$ 6.62	$ 6.68
Expected	2017-2018	Sep	$ 6.75	$ 6.67	$ 6.67	$ 6.67	$ 6.67	$ 6.63	$ 6.63	$ 6.67	$ 6.64	$ 6.68
Expected	2017-2018	Oct	$ 6.84	$ 6.76	$ 6.76	$ 6.76	$ 6.76	$ 6.76	$ 6.76	$ 6.76	$ 6.76	$ 6.78
Expected	2018-2019	Nov	$ 7.20	$ 7.12	$ 7.19	$ 7.19	$ 7.19	$ 7.09	$ 7.09	$ 7.12	$ 7.10	$ 7.18
Expected	2018-2019	Dec	$ 7.27	$ 7.18	$ 17.13	$ 17.13	$ 17.13	$ 7.18	$ 7.18	$ 7.18	$ 7.18	$ 13.17
Expected	2018-2019	Jan	$ 7.23	$ 7.16	$ 7.22	$ 7.22	$ 7.22	$ 7.16	$ 7.16	$ 7.16	$ 7.16	$ 7.21
Expected	2018-2019	Feb	$ 7.22	$ 7.07	$ 7.22	$ 7.22	$ 7.22	$ 7.07	$ 7.19	$ 7.07	$ 7.11	$ 7.19
Expected	2018-2019	Mar	$ 6.97	$ 6.90	$ 6.94	$ 6.94	$ 6.94	$ 6.90	$ 6.91	$ 6.90	$ 6.90	$ 6.94
Expected	2018-2019	Apr	$ 6.84	$ 6.84	$ 6.84	$ 6.84	$ 6.84	$ 6.75	$ 6.75	$ 6.84	$ 6.78	$ 6.84
Expected	2018-2019	May	$ 6.84	$ 6.84	$ 6.84	$ 6.84	$ 6.84	$ 6.74	$ 6.74	$ 6.84	$ 6.77	$ 6.84
Expected	2018-2019	Jun	$ 6.85	$ 6.84	$ 6.84	$ 6.84	$ 6.84	$ 6.76	$ 6.76	$ 6.84	$ 6.79	$ 6.84
Expected	2018-2019	Jul	$ 6.84	$ 6.84	$ 6.84	$ 6.84	$ 6.84	$ 6.73	$ 6.73	$ 6.84	$ 6.77	$ 6.84
Expected	2018-2019	Aug	$ 6.87	$ 6.84	$ 6.84	$ 6.84	$ 6.84	$ 6.76	$ 6.76	$ 6.84	$ 6.79	$ 6.85
Expected	2018-2019	Sep	$ 6.91	$ 6.84	$ 6.84	$ 6.84	$ 6.84	$ 6.79	$ 6.79	$ 6.84	$ 6.81	$ 6.85
Expected	2018-2019	Oct	$ 7.02	$ 6.93	$ 6.94	$ 6.94	$ 6.94	$ 6.93	$ 6.93	$ 6.93	$ 6.93	$ 6.95
Expected	2019-2020	Nov	$ 7.37	$ 7.29	$ 7.36	$ 7.36	$ 7.36	$ 7.25	$ 7.25	$ 7.29	$ 7.26	$ 7.35
Expected	2019-2020	Dec	$ 7.45	$ 7.36	$ 18.27	$ 18.27	$ 18.27	$ 7.36	$ 7.36	$ 7.36	$ 7.36	$ 13.92
Expected	2019-2020	Jan	$ 7.44	$ 7.36	$ 7.43	$ 7.43	$ 7.43	$ 7.36	$ 7.36	$ 7.36	$ 7.36	$ 7.42
Expected	2019-2020	Feb	$ 7.40	$ 7.27	$ 7.41	$ 7.41	$ 7.41	$ 7.27	$ 7.38	$ 7.27	$ 7.31	$ 7.38
Expected	2019-2020	Mar	$ 7.19	$ 7.12	$ 7.16	$ 7.16	$ 7.16	$ 7.12	$ 7.13	$ 7.12	$ 7.12	$ 7.16
Expected	2019-2020	Apr	$ 7.06	$ 7.05	$ 7.05	$ 7.05	$ 7.05	$ 6.98	$ 6.98	$ 7.05	$ 7.00	$ 7.05
Expected	2019-2020	May	$ 7.05	$ 7.05	$ 7.05	$ 7.05	$ 7.05	$ 6.95	$ 6.95	$ 7.05	$ 6.99	$ 7.05
Expected	2019-2020	Jun	$ 7.07	$ 7.05	$ 7.05	$ 7.05	$ 7.05	$ 6.98	$ 6.98	$ 7.05	$ 7.00	$ 7.06
Expected	2019-2020	Jul	$ 7.06	$ 7.05	$ 7.05	$ 7.05	$ 7.05	$ 6.94	$ 6.94	$ 7.05	$ 6.98	$ 7.05
Expected	2019-2020	Aug	$ 7.08	$ 7.05	$ 7.05	$ 7.05	$ 7.05	$ 6.97	$ 6.97	$ 7.05	$ 6.99	$ 7.06
Expected	2019-2020	Sep	$ 7.13	$ 7.05	$ 7.05	$ 7.05	$ 7.05	$ 7.01	$ 7.01	$ 7.05	$ 7.02	$ 7.07
Expected	2019-2020	Oct	$ 7.21	$ 7.13	$ 7.13	$ 7.13	$ 7.13	$ 7.13	$ 7.13	$ 7.13	$ 7.13	$ 7.14
Expected	2020-2021	Nov	$ 7.56	$ 7.50	$ 7.56	$ 7.56	$ 7.56	$ 7.45	$ 7.45	$ 7.50	$ 7.47	$ 7.55
Expected	2020-2021	Dec	$ 7.65	$ 7.58	$ 19.54	$ 19.54	$ 19.54	$ 7.56	$ 7.56	$ 7.58	$ 7.56	$ 14.77
Expected	2020-2021	Jan	$ 7.66	$ 7.59	$ 7.65	$ 7.65	$ 7.65	$ 7.59	$ 7.59	$ 7.59	$ 7.59	$ 7.64
Expected	2020-2021	Feb	$ 7.66	$ 7.57	$ 7.65	$ 7.65	$ 7.65	$ 7.57	$ 7.63	$ 7.57	$ 7.59	$ 7.64
Expected	2020-2021	Mar	$ 7.51	$ 7.43	$ 7.48	$ 7.48	$ 7.48	$ 7.43	$ 7.45	$ 7.43	$ 7.44	$ 7.47
Expected	2020-2021	Apr	$ 7.34	$ 7.33	$ 7.34	$ 7.34	$ 7.34	$ 7.25	$ 7.25	$ 7.33	$ 7.28	$ 7.34
Expected	2020-2021	May	$ 7.35	$ 7.33	$ 7.34	$ 7.34	$ 7.34	$ 7.25	$ 7.25	$ 7.33	$ 7.28	$ 7.34
Expected	2020-2021	Jun	$ 7.36	$ 7.33	$ 7.34	$ 7.34	$ 7.34	$ 7.27	$ 7.27	$ 7.33	$ 7.29	$ 7.34
Expected	2020-2021	Jul	$ 7.35	$ 7.33	$ 7.34	$ 7.34	$ 7.34	$ 7.24	$ 7.24	$ 7.33	$ 7.27	$ 7.34
Expected	2020-2021	Aug	$ 7.38	$ 7.33	$ 7.34	$ 7.34	$ 7.34	$ 7.26	$ 7.26	$ 7.33	$ 7.28	$ 7.34
Expected	2020-2021	Sep	$ 7.42	$ 7.33	$ 7.34	$ 7.34	$ 7.34	$ 7.30	$ 7.30	$ 7.33	$ 7.31	$ 7.35
Expected	2020-2021	Oct	$ 7.50	$ 7.41	$ 7.41	$ 7.41	$ 7.41	$ 7.41	$ 7.41	$ 7.41	$ 7.41	$ 7.43
Expected	2021-2022	Nov	$ 7.87	$ 7.80	$ 7.86	$ 7.86	$ 7.86	$ 7.75	$ 7.75	$ 7.80	$ 7.77	$ 7.85
Expected	2021-2022	Dec	$ 7.95	$ 7.89	$ 19.30	$ 19.30	$ 19.30	$ 7.87	$ 7.87	$ 7.89	$ 7.88	$ 14.75
Expected	2021-2022	Jan	$ 8.01	$ 7.96	$ 8.01	$ 8.01	$ 8.01	$ 7.96	$ 7.96	$ 7.96	$ 7.96	$ 8.00
Expected	2021-2022	Feb	$ 8.02	$ 9.50	$ 9.92	$ 9.92	$ 9.92	$ 9.50	$ 9.88	$ 9.50	$ 9.63	$ 9.46
Expected	2021-2022	Mar	$ 7.36	$ 7.30	$ 7.34	$ 7.34	$ 7.34	$ 7.30	$ 7.32	$ 7.30	$ 7.31	$ 7.34
Expected	2021-2022	Apr	$ 7.20	$ 7.20	$ 7.20	$ 7.20	$ 7.20	$ 7.12	$ 7.12	$ 7.20	$ 7.15	$ 7.20
Expected	2021-2022	May	$ 7.20	$ 7.20	$ 7.20	$ 7.20	$ 7.20	$ 7.11	$ 7.11	$ 7.20	$ 7.14	$ 7.20
Expected	2021-2022	Jun	$ 7.22	$ 7.20	$ 7.20	$ 7.20	$ 7.20	$ 7.14	$ 7.14	$ 7.20	$ 7.16	$ 7.21
Expected	2021-2022	Jul	$ 7.21	$ 7.20	$ 7.20	$ 7.20	$ 7.20	$ 7.11	$ 7.11	$ 7.20	$ 7.14	$ 7.21
Expected	2021-2022	Aug	$ 7.24	$ 7.20	$ 7.20	$ 7.20	$ 7.20	$ 7.14	$ 7.14	$ 7.20	$ 7.16	$ 7.21
Expected	2021-2022	Sep	$ 7.29	$ 7.20	$ 7.20	$ 7.20	$ 7.20	$ 7.18	$ 7.18	$ 7.20	$ 7.19	$ 7.22
Expected	2021-2022	Oct	$ 7.37	$ 7.29	$ 7.29	$ 7.29	$ 7.29	$ 7.29	$ 7.29	$ 7.29	$ 7.29	$ 7.31
Expected	2022-2023	Nov	$ 7.76	$ 7.68	$ 7.75	$ 7.75	$ 7.75	$ 7.65	$ 7.65	$ 7.68	$ 7.66	$ 7.74
Expected	2022-2023	Dec	$ 7.84	$ 7.76	$ 19.59	$ 19.59	$ 19.59	$ 7.76	$ 7.76	$ 7.76	$ 7.76	$ 14.87
Expected	2022-2023	Jan	$ 7.75	$ 7.71	$ 7.75	$ 7.75	$ 7.75	$ 7.71	$ 7.71	$ 7.71	$ 7.71	$ 7.74
Expected	2022-2023	Feb	$ 7.77	$ 10.78	$ 10.69	$ 10.69	$ 10.69	$ 10.78	$ 10.96	$ 10.78	$ 10.84	$ 10.12
Expected	2022-2023	Mar	$ 7.41	$ 7.36	$ 7.39	$ 7.39	$ 7.39	$ 7.36	$ 7.37	$ 7.36	$ 7.36	$ 7.39
Expected	2022-2023	Apr	$ 7.23	$ 7.19	$ 7.19	$ 7.19	$ 7.19	$ 7.17	$ 7.17	$ 7.19	$ 7.18	$ 7.20
Expected	2022-2023	May	$ 7.21	$ 7.19	$ 7.19	$ 7.19	$ 7.19	$ 7.14	$ 7.14	$ 7.19	$ 7.16	$ 7.20
Expected	2022-2023	Jun	$ 7.22	$ 7.19	$ 7.19	$ 7.19	$ 7.19	$ 7.16	$ 7.16	$ 7.19	$ 7.17	$ 7.20
Expected	2022-2023	Jul	$ 7.21	$ 7.19	$ 7.19	$ 7.19	$ 7.19	$ 7.13	$ 7.13	$ 7.19	$ 7.15	$ 7.20
Expected	2022-2023	Aug	$ 7.19	$ 7.19	$ 7.19	$ 7.19	$ 7.19	$ 7.08	$ 7.08	$ 7.19	$ 7.12	$ 7.19
Expected	2022-2023	Sep	$ 7.15	$ 7.15	$ 7.15	$ 7.15	$ 7.15	$ 7.03	$ 7.03	$ 7.19	$ 7.08	$ 7.15
Expected	2022-2023	Oct	$ 7.13	$ 7.05	$ 7.05	$ 7.05	$ 7.05	$ 7.05	$ 7.05	$ 7.05	$ 7.05	$ 7.06
Expected	2023-2024	Nov	$ 7.33	$ 7.27	$ 7.32	$ 7.32	$ 7.32	$ 7.20	$ 7.20	$ 7.27	$ 7.22	$ 7.31
Expected	2023-2024	Dec	$ 7.40	$ 7.42	$ 20.55	$ 20.55	$ 20.55	$ 7.32	$ 7.32	$ 7.42	$ 7.36	$ 15.29
Expected	2023-2024	Jan	$ 7.71	$ 7.59	$ 7.70	$ 7.70	$ 7.70	$ 7.59	$ 7.59	$ 7.59	$ 7.59	$ 7.68
Expected	2023-2024	Feb	$ 7.62	$ 10.64	$ 10.50	$ 10.50	$ 10.50	$ 10.72	$ 10.97	$ 10.72	$ 10.80	$ 9.99
Expected	2023-2024	Mar	$ 6.59	$ 6.51	$ 6.58	$ 6.58	$ 6.58	$ 6.51	$ 6.51	$ 6.51	$ 6.51	$ 6.57
Expected	2023-2024	Apr	$ 6.52	$ 6.51	$ 6.51	$ 6.51	$ 6.51	$ 6.41	$ 6.41	$ 6.51	$ 6.44	$ 6.51

Appendix 6.4 - Monthly Avoided Cost Detail 1/
2009$

Scenario	Gas Year	Month	Klam Falls	La Grande	Medford GTN	Medford NWP	Roseburg	Wa/Id Both	Wa/Id GTN	Wa/Id NWP	WA/ID Annual	OR Annual
Expected	2023-2024	May	$ 6.52	$ 6.51	$ 6.51	$ 6.51	$ 6.51	$ 6.41	$ 6.41	$ 6.51	$ 6.44	$ 6.51
Expected	2023-2024	Jun	$ 6.55	$ 6.51	$ 6.51	$ 6.51	$ 6.51	$ 6.44	$ 6.44	$ 6.51	$ 6.46	$ 6.52
Expected	2023-2024	Jul	$ 6.55	$ 6.51	$ 6.51	$ 6.51	$ 6.51	$ 6.44	$ 6.44	$ 6.51	$ 6.46	$ 6.52
Expected	2023-2024	Aug	$ 6.58	$ 6.51	$ 6.51	$ 6.51	$ 6.51	$ 6.47	$ 6.47	$ 6.51	$ 6.48	$ 6.52
Expected	2023-2024	Sep	$ 6.59	$ 6.51	$ 6.51	$ 6.51	$ 6.51	$ 6.50	$ 6.50	$ 6.51	$ 6.50	$ 6.52
Expected	2023-2024	Oct	$ 6.69	$ 6.61	$ 6.61	$ 6.61	$ 6.61	$ 6.61	$ 6.61	$ 6.61	$ 6.61	$ 6.63
Expected	2024-2025	Nov	$ 7.05	$ 6.97	$ 7.04	$ 7.04	$ 7.04	$ 6.92	$ 6.92	$ 6.97	$ 6.94	$ 7.03
Expected	2024-2025	Dec	$ 7.13	$ 7.02	$ 20.26	$ 20.26	$ 20.26	$ 7.02	$ 7.02	$ 7.02	$ 7.02	$ 14.98
Expected	2024-2025	Jan	$ 7.09	$ 7.01	$ 7.09	$ 7.09	$ 7.09	$ 6.99	$ 6.99	$ 7.01	$ 7.00	$ 7.07
Expected	2024-2025	Feb	$ 7.10	$ 10.88	$ 11.88	$ 11.88	$ 11.88	$ 10.88	$ 10.93	$ 10.88	$ 10.90	$ 10.72
Expected	2024-2025	Mar	$ 6.83	$ 6.74	$ 6.82	$ 6.82	$ 6.82	$ 6.74	$ 6.74	$ 6.74	$ 6.74	$ 6.81
Expected	2024-2025	Apr	$ 6.74	$ 6.73	$ 6.74	$ 6.74	$ 6.74	$ 6.62	$ 6.62	$ 6.73	$ 6.66	$ 6.74
Expected	2024-2025	May	$ 6.75	$ 6.73	$ 6.73	$ 6.73	$ 6.73	$ 6.63	$ 6.63	$ 6.73	$ 6.67	$ 6.74
Expected	2024-2025	Jun	$ 6.77	$ 6.73	$ 6.73	$ 6.73	$ 6.73	$ 6.65	$ 6.65	$ 6.73	$ 6.68	$ 6.74
Expected	2024-2025	Jul	$ 6.76	$ 6.73	$ 6.73	$ 6.73	$ 6.73	$ 6.64	$ 6.64	$ 6.73	$ 6.67	$ 6.74
Expected	2024-2025	Aug	$ 6.79	$ 6.73	$ 6.73	$ 6.73	$ 6.73	$ 6.67	$ 6.67	$ 6.73	$ 6.69	$ 6.75
Expected	2024-2025	Sep	$ 6.81	$ 6.73	$ 6.73	$ 6.73	$ 6.73	$ 6.71	$ 6.71	$ 6.73	$ 6.72	$ 6.75
Expected	2024-2025	Oct	$ 6.90	$ 6.82	$ 6.82	$ 6.82	$ 6.82	$ 6.82	$ 6.82	$ 6.82	$ 6.82	$ 6.84
Expected	2025-2026	Nov	$ 7.27	$ 7.20	$ 7.27	$ 7.27	$ 7.27	$ 7.15	$ 7.15	$ 7.20	$ 7.16	$ 7.25
Expected	2025-2026	Dec	$ 7.36	$ 7.25	$ 20.51	$ 20.51	$ 20.51	$ 7.25	$ 7.25	$ 7.25	$ 7.25	$ 15.23
Expected	2025-2026	Jan	$ 7.30	$ 7.22	$ 7.30	$ 7.30	$ 7.30	$ 7.19	$ 7.19	$ 7.22	$ 7.20	$ 7.29
Expected	2025-2026	Feb	$ 7.32	$ 11.50	$ 14.02	$ 14.02	$ 14.02	$ 11.50	$ 11.54	$ 11.50	$ 11.51	$ 12.16
Expected	2025-2026	Mar	$ 7.05	$ 6.95	$ 7.05	$ 7.05	$ 7.05	$ 6.95	$ 6.95	$ 6.95	$ 6.95	$ 7.03
Expected	2025-2026	Apr	$ 6.95	$ 6.94	$ 6.94	$ 6.94	$ 6.94	$ 6.83	$ 6.83	$ 6.94	$ 6.87	$ 6.95
Expected	2025-2026	May	$ 6.95	$ 6.94	$ 6.94	$ 6.94	$ 6.94	$ 6.83	$ 6.83	$ 6.94	$ 6.87	$ 6.95
Expected	2025-2026	Jun	$ 6.98	$ 6.94	$ 6.94	$ 6.94	$ 6.94	$ 6.85	$ 6.85	$ 6.94	$ 6.88	$ 6.95
Expected	2025-2026	Jul	$ 6.94	$ 6.94	$ 6.94	$ 6.94	$ 6.94	$ 6.82	$ 6.82	$ 6.94	$ 6.86	$ 6.94
Expected	2025-2026	Aug	$ 6.98	$ 6.94	$ 6.94	$ 6.94	$ 6.94	$ 6.85	$ 6.85	$ 6.94	$ 6.88	$ 6.95
Expected	2025-2026	Sep	$ 7.01	$ 6.94	$ 6.94	$ 6.94	$ 6.94	$ 6.88	$ 6.88	$ 6.94	$ 6.90	$ 6.96
Expected	2025-2026	Oct	$ 7.08	$ 7.00	$ 7.00	$ 7.00	$ 7.00	$ 7.00	$ 7.00	$ 7.00	$ 7.00	$ 7.01
Expected	2026-2027	Nov	$ 7.43	$ 7.37	$ 7.42	$ 7.42	$ 7.42	$ 7.30	$ 7.30	$ 7.37	$ 7.32	$ 7.41
Expected	2026-2027	Dec	$ 7.53	$ 7.50	$ 20.69	$ 20.69	$ 20.69	$ 7.43	$ 7.43	$ 7.50	$ 7.46	$ 15.42
Expected	2026-2027	Jan	$ 7.76	$ 7.64	$ 7.76	$ 7.76	$ 7.76	$ 7.64	$ 7.64	$ 7.64	$ 7.64	$ 7.73
Expected	2026-2027	Feb	$ 7.75	$ 12.32	$ 16.59	$ 16.59	$ 16.59	$ 12.32	$ 12.44	$ 12.32	$ 12.36	$ 13.97
Expected	2026-2027	Mar	$ 7.15	$ 7.06	$ 7.14	$ 7.14	$ 7.14	$ 7.06	$ 7.06	$ 7.06	$ 7.06	$ 7.12
Expected	2026-2027	Apr	$ 7.06	$ 7.02	$ 7.02	$ 7.02	$ 7.02	$ 6.93	$ 6.93	$ 7.02	$ 6.96	$ 7.02
Expected	2026-2027	May	$ 7.08	$ 7.02	$ 7.02	$ 7.02	$ 7.02	$ 6.95	$ 6.95	$ 7.02	$ 6.98	$ 7.03
Expected	2026-2027	Jun	$ 7.10	$ 7.02	$ 7.02	$ 7.02	$ 7.02	$ 6.99	$ 6.99	$ 7.02	$ 7.00	$ 7.03
Expected	2026-2027	Jul	$ 7.08	$ 7.01	$ 7.01	$ 7.01	$ 7.01	$ 6.95	$ 6.95	$ 7.02	$ 6.98	$ 7.02
Expected	2026-2027	Aug	$ 7.09	$ 7.01	$ 7.01	$ 7.01	$ 7.01	$ 6.99	$ 6.99	$ 7.02	$ 7.00	$ 7.03
Expected	2026-2027	Sep	$ 7.10	$ 7.02	$ 7.02	$ 7.02	$ 7.02	$ 7.02	$ 7.02	$ 7.02	$ 7.02	$ 7.03
Expected	2026-2027	Oct	$ 7.21	$ 7.13	$ 7.13	$ 7.13	$ 7.13	$ 7.13	$ 7.13	$ 7.13	$ 7.13	$ 7.14
Expected	2027-2028	Nov	$ 7.58	$ 7.50	$ 7.57	$ 7.57	$ 7.57	$ 7.45	$ 7.45	$ 7.50	$ 7.47	$ 7.56
Expected	2027-2028	Dec	$ 7.67	$ 7.55	$ 20.83	$ 20.83	$ 20.83	$ 7.55	$ 7.55	$ 7.55	$ 7.55	$ 15.54
Expected	2027-2028	Jan	$ 7.60	$ 7.52	$ 7.60	$ 7.60	$ 7.60	$ 7.48	$ 7.48	$ 7.52	$ 7.50	$ 7.58
Expected	2027-2028	Feb	$ 7.61	$ 14.77	$ 18.49	$ 18.49	$ 18.49	$ 14.77	$ 14.85	$ 14.77	$ 14.80	$ 15.57
Expected	2027-2028	Mar	$ 7.24	$ 7.14	$ 7.24	$ 7.24	$ 7.24	$ 7.14	$ 7.14	$ 7.14	$ 7.14	$ 7.22
Expected	2027-2028	Apr	$ 7.17	$ 7.13	$ 7.13	$ 7.13	$ 7.13	$ 7.05	$ 7.05	$ 7.13	$ 7.07	$ 7.14
Expected	2027-2028	May	$ 7.17	$ 7.13	$ 7.13	$ 7.13	$ 7.13	$ 7.05	$ 7.05	$ 7.13	$ 7.07	$ 7.14
Expected	2027-2028	Jun	$ 7.21	$ 7.13	$ 7.13	$ 7.13	$ 7.13	$ 7.09	$ 7.09	$ 7.13	$ 7.10	$ 7.14
Expected	2027-2028	Jul	$ 7.18	$ 7.12	$ 7.12	$ 7.12	$ 7.12	$ 7.06	$ 7.06	$ 7.13	$ 7.08	$ 7.13
Expected	2027-2028	Aug	$ 7.21	$ 7.12	$ 7.12	$ 7.12	$ 7.12	$ 7.09	$ 7.09	$ 7.13	$ 7.10	$ 7.14
Expected	2027-2028	Sep	$ 7.21	$ 7.13	$ 7.13	$ 7.13	$ 7.13	$ 7.13	$ 7.13	$ 7.13	$ 7.13	$ 7.14
Expected	2027-2028	Oct	$ 7.31	$ 7.23	$ 7.23	$ 7.23	$ 7.23	$ 7.23	$ 7.23	$ 7.23	$ 7.23	$ 7.25
Expected	2028-2029	Nov	$ 7.70	$ 7.61	$ 7.69	$ 7.69	$ 7.69	$ 7.56	$ 7.56	$ 7.61	$ 7.58	$ 7.67
Expected	2028-2029	Dec	$ 7.78	$ 7.66	$ 20.96	$ 20.96	$ 20.96	$ 7.66	$ 7.66	$ 7.66	$ 7.66	$ 15.86
Expected	2028-2029	Jan	$ 7.69	$ 7.62	$ 9.76	$ 9.76	$ 9.76	$ 7.58	$ 7.58	$ 7.62	$ 7.59	$ 8.92
Expected	2028-2029	Feb	$ 7.71	$ 16.07	$ 19.39	$ 19.39	$ 19.39	$ 15.17	$ 15.21	$ 15.17	$ 15.18	$ 16.39
Expected	2028-2029	Mar	$ 7.42	$ 7.31	$ 7.41	$ 7.41	$ 7.41	$ 7.31	$ 7.31	$ 7.31	$ 7.31	$ 7.39
Expected	2028-2029	Apr	$ 7.29	$ 7.26	$ 7.26	$ 7.26	$ 7.26	$ 7.17	$ 7.17	$ 7.26	$ 7.20	$ 7.27
Expected	2028-2029	May	$ 7.31	$ 7.26	$ 7.26	$ 7.26	$ 7.26	$ 7.19	$ 7.19	$ 7.26	$ 7.21	$ 7.27
Expected	2028-2029	Jun	$ 7.35	$ 7.26	$ 7.26	$ 7.26	$ 7.26	$ 7.22	$ 7.22	$ 7.26	$ 7.23	$ 7.28
Expected	2028-2029	Jul	$ 7.25	$ 7.17	$ 7.17	$ 7.17	$ 7.17	$ 7.13	$ 7.13	$ 7.26	$ 7.17	$ 7.19
Expected	2028-2029	Aug	$ 7.25	$ 7.17	$ 7.17	$ 7.17	$ 7.17	$ 7.13	$ 7.13	$ 7.26	$ 7.17	$ 7.19
Expected	2028-2029	Sep	$ 7.35	$ 7.26	$ 7.26	$ 7.26	$ 7.26	$ 7.24	$ 7.24	$ 7.26	$ 7.25	$ 7.28
Expected	2028-2029	Oct	$ 7.41	$ 7.32	$ 7.32	$ 7.32	$ 7.32	$ 7.32	$ 7.32	$ 7.32	$ 7.32	$ 7.34

1/ Avoided costs shown before Environmental Externalities adder.

Appendix 6.4 - Monthly Avoided Cost Detail 1/
2009$

Scenario	Gas Year	Month	Klam Falls	La Grande	Medford GTN	Medford NWP	Roseburg	Wa/Id Both	Wa/Id GTN	Wa/Id NWP	WA/ID Annual	OR Annual
High Growth & Low Price	2009-2010	Nov	$ 5.57	$ 5.51	$ 5.54	$ 5.54	$ 5.54	$ 5.51	$ 5.51	$ 5.51	$ 5.51	$ 5.54
High Growth & Low Price	2009-2010	Dec	$ 5.93	$ 5.88	$ 5.87	$ 5.87	$ 5.87	$ 5.88	$ 5.88	$ 5.88	$ 5.88	$ 5.89
High Growth & Low Price	2009-2010	Jan	$ 5.59	$ 5.63	$ 5.59	$ 5.59	$ 5.59	$ 5.62	$ 5.62	$ 5.63	$ 5.63	$ 5.60
High Growth & Low Price	2009-2010	Feb	$ 5.64	$ 5.60	$ 5.62	$ 5.62	$ 5.62	$ 5.60	$ 5.61	$ 5.60	$ 5.60	$ 5.62
High Growth & Low Price	2009-2010	Mar	$ 5.50	$ 5.43	$ 5.46	$ 5.46	$ 5.46	$ 5.43	$ 5.51	$ 5.43	$ 5.46	$ 5.46
High Growth & Low Price	2009-2010	Apr	$ 4.86	$ 4.85	$ 4.85	$ 4.85	$ 4.85	$ 4.85	$ 4.85	$ 4.85	$ 4.85	$ 4.85
High Growth & Low Price	2009-2010	May	$ 4.90	$ 4.84	$ 4.84	$ 4.84	$ 4.84	$ 4.84	$ 4.90	$ 4.84	$ 4.86	$ 4.86
High Growth & Low Price	2009-2010	Jun	$ 4.90	$ 4.84	$ 4.84	$ 4.84	$ 4.84	$ 4.84	$ 4.98	$ 4.84	$ 4.89	$ 4.86
High Growth & Low Price	2009-2010	Jul	$ 4.90	$ 4.84	$ 4.84	$ 4.84	$ 4.84	$ 4.84	$ 5.05	$ 4.84	$ 4.91	$ 4.86
High Growth & Low Price	2009-2010	Aug	$ 4.90	$ 4.84	$ 4.84	$ 4.84	$ 4.84	$ 4.84	$ 5.13	$ 4.84	$ 4.94	$ 4.86
High Growth & Low Price	2009-2010	Sep	$ 4.90	$ 4.84	$ 4.84	$ 4.84	$ 4.84	$ 4.84	$ 5.14	$ 4.84	$ 4.94	$ 4.86
High Growth & Low Price	2009-2010	Oct	$ 5.21	$ 5.19	$ 5.19	$ 5.19	$ 5.19	$ 5.19	$ 5.19	$ 5.19	$ 5.19	$ 5.20
High Growth & Low Price	2010-2011	Nov	$ 5.96	$ 5.90	$ 5.93	$ 5.93	$ 5.93	$ 5.90	$ 5.90	$ 5.90	$ 5.90	$ 5.93
High Growth & Low Price	2010-2011	Dec	$ 6.14	$ 6.09	$ 6.13	$ 6.13	$ 6.13	$ 6.09	$ 6.09	$ 6.09	$ 6.09	$ 6.13
High Growth & Low Price	2010-2011	Jan	$ 6.05	$ 6.05	$ 6.05	$ 6.05	$ 6.05	$ 6.04	$ 6.04	$ 6.05	$ 6.04	$ 6.05
High Growth & Low Price	2010-2011	Feb	$ 6.06	$ 6.02	$ 6.05	$ 6.05	$ 6.05	$ 6.02	$ 6.03	$ 6.02	$ 6.03	$ 6.05
High Growth & Low Price	2010-2011	Mar	$ 5.88	$ 5.81	$ 5.85	$ 5.85	$ 5.85	$ 5.81	$ 5.89	$ 5.81	$ 5.84	$ 5.85
High Growth & Low Price	2010-2011	Apr	$ 5.14	$ 5.21	$ 5.14	$ 5.14	$ 5.14	$ 5.14	$ 5.14	$ 5.21	$ 5.17	$ 5.16
High Growth & Low Price	2010-2011	May	$ 5.14	$ 5.21	$ 5.14	$ 5.14	$ 5.14	$ 5.15	$ 5.15	$ 5.21	$ 5.17	$ 5.16
High Growth & Low Price	2010-2011	Jun	$ 5.20	$ 5.21	$ 5.20	$ 5.20	$ 5.20	$ 5.21	$ 5.21	$ 5.21	$ 5.21	$ 5.20
High Growth & Low Price	2010-2011	Jul	$ 5.27	$ 5.21	$ 5.21	$ 5.21	$ 5.21	$ 5.21	$ 5.27	$ 5.21	$ 5.23	$ 5.23
High Growth & Low Price	2010-2011	Aug	$ 5.28	$ 5.21	$ 5.21	$ 5.21	$ 5.21	$ 5.21	$ 5.33	$ 5.21	$ 5.25	$ 5.23
High Growth & Low Price	2010-2011	Sep	$ 5.28	$ 5.21	$ 5.21	$ 5.21	$ 5.21	$ 5.21	$ 5.36	$ 5.21	$ 5.26	$ 5.23
High Growth & Low Price	2010-2011	Oct	$ 5.42	$ 5.42	$ 5.42	$ 5.42	$ 5.42	$ 5.42	$ 5.42	$ 5.42	$ 5.42	$ 5.42
High Growth & Low Price	2011-2012	Nov	$ 5.86	$ 5.91	$ 5.86	$ 5.86	$ 5.86	$ 5.83	$ 5.83	$ 5.91	$ 5.86	$ 5.87
High Growth & Low Price	2011-2012	Dec	$ 5.99	$ 6.06	$ 6.01	$ 6.01	$ 6.01	$ 5.99	$ 5.99	$ 6.06	$ 6.01	$ 6.02
High Growth & Low Price	2011-2012	Jan	$ 5.86	$ 5.94	$ 5.86	$ 5.86	$ 5.86	$ 5.89	$ 5.89	$ 5.94	$ 5.91	$ 5.88
High Growth & Low Price	2011-2012	Feb	$ 5.88	$ 5.89	$ 5.88	$ 5.88	$ 5.88	$ 5.85	$ 5.86	$ 5.85	$ 5.85	$ 5.88
High Growth & Low Price	2011-2012	Mar	$ 5.62	$ 5.68	$ 5.62	$ 5.62	$ 5.62	$ 5.68	$ 5.70	$ 5.68	$ 5.69	$ 5.64
High Growth & Low Price	2011-2012	Apr	$ 4.97	$ 5.06	$ 4.97	$ 4.97	$ 4.97	$ 4.98	$ 4.98	$ 5.15	$ 5.04	$ 4.99
High Growth & Low Price	2011-2012	May	$ 4.94	$ 5.06	$ 4.94	$ 4.94	$ 4.94	$ 4.97	$ 4.97	$ 5.15	$ 5.03	$ 4.97
High Growth & Low Price	2011-2012	Jun	$ 5.01	$ 5.06	$ 5.01	$ 5.01	$ 5.01	$ 5.04	$ 5.04	$ 5.15	$ 5.08	$ 5.02
High Growth & Low Price	2011-2012	Jul	$ 5.08	$ 5.12	$ 5.08	$ 5.08	$ 5.08	$ 5.10	$ 5.10	$ 5.15	$ 5.12	$ 5.09
High Growth & Low Price	2011-2012	Aug	$ 5.14	$ 5.15	$ 5.14	$ 5.14	$ 5.14	$ 5.15	$ 5.15	$ 5.15	$ 5.15	$ 5.14
High Growth & Low Price	2011-2012	Sep	$ 5.18	$ 5.15	$ 5.15	$ 5.15	$ 5.15	$ 5.15	$ 5.19	$ 5.15	$ 5.17	$ 5.16
High Growth & Low Price	2011-2012	Oct	$ 5.23	$ 5.23	$ 5.23	$ 5.23	$ 5.23	$ 5.23	$ 5.23	$ 5.23	$ 5.23	$ 5.23
High Growth & Low Price	2012-2013	Nov	$ 5.80	$ 5.76	$ 5.78	$ 5.78	$ 5.78	$ 5.75	$ 5.75	$ 5.76	$ 5.75	$ 5.78
High Growth & Low Price	2012-2013	Dec	$ 5.91	$ 5.99	$ 5.97	$ 5.97	$ 5.97	$ 5.96	$ 5.96	$ 5.99	$ 5.97	$ 5.96
High Growth & Low Price	2012-2013	Jan	$ 6.18	$ 6.25	$ 6.18	$ 6.18	$ 6.18	$ 6.25	$ 6.25	$ 6.25	$ 6.25	$ 6.20
High Growth & Low Price	2012-2013	Feb	$ 6.18	$ 6.23	$ 6.18	$ 6.18	$ 6.18	$ 6.23	$ 6.24	$ 6.23	$ 6.23	$ 6.19
High Growth & Low Price	2012-2013	Mar	$ 5.89	$ 5.86	$ 5.87	$ 5.87	$ 5.87	$ 5.86	$ 6.06	$ 5.86	$ 5.93	$ 5.88
High Growth & Low Price	2012-2013	Apr	$ 5.29	$ 5.39	$ 5.29	$ 5.29	$ 5.29	$ 5.33	$ 5.33	$ 5.39	$ 5.35	$ 5.31
High Growth & Low Price	2012-2013	May	$ 5.30	$ 5.39	$ 5.30	$ 5.30	$ 5.30	$ 5.35	$ 5.35	$ 5.39	$ 5.36	$ 5.32
High Growth & Low Price	2012-2013	Jun	$ 5.37	$ 5.39	$ 5.37	$ 5.37	$ 5.37	$ 5.39	$ 5.42	$ 5.39	$ 5.40	$ 5.38
High Growth & Low Price	2012-2013	Jul	$ 5.40	$ 5.39	$ 5.39	$ 5.39	$ 5.39	$ 5.39	$ 5.44	$ 5.39	$ 5.41	$ 5.39
High Growth & Low Price	2012-2013	Aug	$ 5.45	$ 5.39	$ 5.39	$ 5.39	$ 5.39	$ 5.39	$ 5.48	$ 5.39	$ 5.42	$ 5.40
High Growth & Low Price	2012-2013	Sep	$ 5.46	$ 5.40	$ 5.40	$ 5.40	$ 5.40	$ 5.40	$ 5.50	$ 5.40	$ 5.43	$ 5.41
High Growth & Low Price	2012-2013	Oct	$ 5.58	$ 5.58	$ 5.58	$ 5.58	$ 5.58	$ 5.58	$ 5.60	$ 5.58	$ 5.58	$ 5.58
High Growth & Low Price	2013-2014	Nov	$ 5.43	$ 5.36	$ 5.38	$ 5.38	$ 5.38	$ 5.32	$ 5.37	$ 5.36	$ 5.35	$ 5.39
High Growth & Low Price	2013-2014	Dec	$ 5.45	$ 5.40	$ 5.43	$ 5.43	$ 5.43	$ 5.35	$ 5.39	$ 5.40	$ 5.38	$ 5.43
High Growth & Low Price	2013-2014	Jan	$ 5.02	$ 5.12	$ 5.02	$ 5.02	$ 5.02	$ 5.12	$ 5.15	$ 5.18	$ 5.15	$ 5.04
High Growth & Low Price	2013-2014	Feb	$ 5.05	$ 5.13	$ 5.05	$ 5.05	$ 5.05	$ 5.13	$ 5.18	$ 5.13	$ 5.15	$ 5.06
High Growth & Low Price	2013-2014	Mar	$ 4.79	$ 4.69	$ 4.79	$ 4.79	$ 4.79	$ 4.69	$ 5.04	$ 4.69	$ 4.81	$ 4.77
High Growth & Low Price	2013-2014	Apr	$ 4.38	$ 4.44	$ 4.38	$ 4.38	$ 4.38	$ 4.41	$ 4.44	$ 4.44	$ 4.43	$ 4.39
High Growth & Low Price	2013-2014	May	$ 4.34	$ 4.44	$ 4.34	$ 4.34	$ 4.34	$ 4.40	$ 4.43	$ 4.44	$ 4.42	$ 4.36
High Growth & Low Price	2013-2014	Jun	$ 4.46	$ 4.44	$ 4.44	$ 4.44	$ 4.44	$ 4.44	$ 4.50	$ 4.44	$ 4.46	$ 4.44
High Growth & Low Price	2013-2014	Jul	$ 4.49	$ 4.44	$ 4.44	$ 4.44	$ 4.44	$ 4.44	$ 4.53	$ 4.44	$ 4.47	$ 4.45
High Growth & Low Price	2013-2014	Aug	$ 4.49	$ 4.44	$ 4.44	$ 4.44	$ 4.44	$ 4.44	$ 4.55	$ 4.44	$ 4.48	$ 4.45
High Growth & Low Price	2013-2014	Sep	$ 4.49	$ 4.44	$ 4.44	$ 4.44	$ 4.44	$ 4.44	$ 4.56	$ 4.44	$ 4.48	$ 4.45
High Growth & Low Price	2013-2014	Oct	$ 4.58	$ 4.55	$ 4.55	$ 4.55	$ 4.55	$ 4.55	$ 4.59	$ 4.55	$ 4.56	$ 4.56
High Growth & Low Price	2014-2015	Nov	$ 5.83	$ 5.79	$ 5.83	$ 5.83	$ 5.83	$ 5.73	$ 5.77	$ 5.79	$ 5.76	$ 5.82
High Growth & Low Price	2014-2015	Dec	$ 5.91	$ 6.06	$ 5.91	$ 5.91	$ 5.91	$ 5.81	$ 5.84	$ 6.12	$ 5.92	$ 5.94
High Growth & Low Price	2014-2015	Jan	$ 6.70	$ 6.85	$ 6.70	$ 6.70	$ 6.70	$ 6.85	$ 6.90	$ 6.85	$ 6.87	$ 6.73
High Growth & Low Price	2014-2015	Feb	$ 6.76	$ 6.88	$ 6.76	$ 6.76	$ 6.76	$ 6.88	$ 6.94	$ 6.88	$ 6.90	$ 6.78
High Growth & Low Price	2014-2015	Mar	$ 6.50	$ 6.46	$ 6.50	$ 6.50	$ 6.50	$ 6.46	$ 6.85	$ 6.46	$ 6.59	$ 6.49
High Growth & Low Price	2014-2015	Apr	$ 6.04	$ 6.21	$ 6.04	$ 6.04	$ 6.04	$ 6.16	$ 6.21	$ 6.21	$ 6.19	$ 6.08
High Growth & Low Price	2014-2015	May	$ 6.06	$ 6.21	$ 6.06	$ 6.06	$ 6.06	$ 6.17	$ 6.22	$ 6.21	$ 6.20	$ 6.09
High Growth & Low Price	2014-2015	Jun	$ 6.21	$ 6.21	$ 6.21	$ 6.21	$ 6.21	$ 6.21	$ 6.26	$ 6.21	$ 6.22	$ 6.21
High Growth & Low Price	2014-2015	Jul	$ 6.28	$ 6.21	$ 6.21	$ 6.21	$ 6.21	$ 6.21	$ 6.33	$ 6.21	$ 6.25	$ 6.22
High Growth & Low Price	2014-2015	Aug	$ 6.28	$ 6.21	$ 6.21	$ 6.21	$ 6.21	$ 6.21	$ 6.33	$ 6.21	$ 6.25	$ 6.22
High Growth & Low Price	2014-2015	Sep	$ 6.28	$ 6.21	$ 6.21	$ 6.21	$ 6.21	$ 6.21	$ 6.34	$ 6.21	$ 6.25	$ 6.22
High Growth & Low Price	2014-2015	Oct	$ 6.37	$ 6.33	$ 6.33	$ 6.33	$ 6.33	$ 6.33	$ 6.38	$ 6.33	$ 6.34	$ 6.34
High Growth & Low Price	2015-2016	Nov	$ 7.06	$ 7.02	$ 7.06	$ 7.06	$ 7.06	$ 6.95	$ 7.01	$ 7.02	$ 6.99	$ 7.05
High Growth & Low Price	2015-2016	Dec	$ 7.17	$ 7.15	$ 7.17	$ 7.17	$ 7.17	$ 7.11	$ 7.16	$ 7.16	$ 7.14	$ 7.17
High Growth & Low Price	2015-2016	Jan	$ 7.04	$ 7.21	$ 7.04	$ 7.04	$ 7.04	$ 7.21	$ 7.26	$ 7.21	$ 7.22	$ 7.07
High Growth & Low Price	2015-2016	Feb	$ 7.38	$ 7.24	$ 7.36	$ 7.36	$ 7.36	$ 7.24	$ 7.31	$ 7.24	$ 7.26	$ 7.34
High Growth & Low Price	2015-2016	Mar	$ 6.71	$ 6.72	$ 6.71	$ 6.71	$ 6.71	$ 6.72	$ 7.21	$ 6.72	$ 6.88	$ 6.71
High Growth & Low Price	2015-2016	Apr	$ 6.27	$ 6.47	$ 6.27	$ 6.27	$ 6.27	$ 6.47	$ 6.52	$ 6.47	$ 6.49	$ 6.31
High Growth & Low Price	2015-2016	May	$ 6.27	$ 6.47	$ 6.27	$ 6.27	$ 6.27	$ 6.47	$ 6.52	$ 6.47	$ 6.49	$ 6.31
High Growth & Low Price	2015-2016	Jun	$ 6.45	$ 6.47	$ 6.45	$ 6.45	$ 6.45	$ 6.45	$ 6.50	$ 6.47	$ 6.47	$ 6.46
High Growth & Low Price	2015-2016	Jul	$ 6.55	$ 6.47	$ 6.47	$ 6.47	$ 6.47	$ 6.47	$ 6.61	$ 6.47	$ 6.52	$ 6.48
High Growth & Low Price	2015-2016	Aug	$ 6.55	$ 6.47	$ 6.47	$ 6.47	$ 6.47	$ 6.47	$ 6.59	$ 6.47	$ 6.51	$ 6.48
High Growth & Low Price	2015-2016	Sep	$ 6.55	$ 6.47	$ 6.47	$ 6.47	$ 6.47	$ 6.47	$ 6.64	$ 6.47	$ 6.53	$ 6.48
High Growth & Low Price	2015-2016	Oct	$ 6.72	$ 6.66	$ 6.66	$ 6.66	$ 6.66	$ 6.66	$ 6.71	$ 6.66	$ 6.68	$ 6.67
High Growth & Low Price	2016-2017	Nov	$ 7.41	$ 7.38	$ 7.41	$ 7.41	$ 7.41	$ 7.29	$ 7.35	$ 7.38	$ 7.34	$ 7.40
High Growth & Low Price	2016-2017	Dec	$ 7.52	$ 7.42	$ 7.51	$ 7.51	$ 7.51	$ 7.37	$ 7.41	$ 7.42	$ 7.40	$ 7.49
High Growth & Low Price	2016-2017	Jan	$ 7.18	$ 7.33	$ 7.18	$ 7.18	$ 7.18	$ 7.31	$ 7.35	$ 7.35	$ 7.34	$ 7.21
High Growth & Low Price	2016-2017	Feb	$ 7.12	$ 7.31	$ 7.12	$ 7.12	$ 7.12	$ 7.31	$ 7.38	$ 7.31	$ 7.33	$ 7.15
High Growth & Low Price	2016-2017	Mar	$ 6.73	$ 6.73	$ 6.73	$ 6.73	$ 6.73	$ 6.73	$ 7.15	$ 6.73	$ 6.87	$ 6.73
High Growth & Low Price	2016-2017	Apr	$ 6.23	$ 6.42	$ 6.23	$ 6.23	$ 6.23	$ 6.42	$ 6.47	$ 6.42	$ 6.44	$ 6.27
High Growth & Low Price	2016-2017	May	$ 6.31	$ 6.42	$ 6.31	$ 6.31	$ 6.31	$ 6.42	$ 6.51	$ 6.42	$ 6.45	$ 6.34
High Growth & Low Price	2016-2017	Jun	$ 6.28	$ 6.42	$ 6.28	$ 6.28	$ 6.28	$ 6.42	$ 6.49	$ 6.42	$ 6.45	$ 6.31
High Growth & Low Price	2016-2017	Jul	$ 6.41	$ 6.42	$ 6.41	$ 6.41	$ 6.41	$ 6.42	$ 6.50	$ 6.42	$ 6.45	$ 6.42
High Growth & Low Price	2016-2017	Aug	$ 6.42	$ 6.42	$ 6.42	$ 6.42	$ 6.42	$ 6.42	$ 6.50	$ 6.42	$ 6.45	$ 6.42

Appendix 6.4 - Monthly Avoided Cost Detail 1/
2009$

Scenario	Gas Year	Month	Klam Falls	La Grande	Medford GTN	Medford NWP	Roseburg	Wa/Id Both	Wa/Id GTN	Wa/Id NWP	WA/ID Annual	OR Annual
High Growth & Low Price	2016-2017	Sep	$ 6.46	$ 6.42	$ 6.42	$ 6.42	$ 6.42	$ 6.42	$ 6.52	$ 6.42	$ 6.46	$ 6.43
High Growth & Low Price	2016-2017	Oct	$ 6.54	$ 6.53	$ 6.53	$ 6.53	$ 6.53	$ 6.53	$ 6.58	$ 6.53	$ 6.55	$ 6.53
High Growth & Low Price	2017-2018	Nov	$ 7.17	$ 7.17	$ 7.17	$ 7.17	$ 7.17	$ 7.16	$ 7.22	$ 7.17	$ 7.18	$ 7.17
High Growth & Low Price	2017-2018	Dec	$ 7.25	$ 7.25	$ 7.25	$ 7.25	$ 7.25	$ 7.20	$ 7.25	$ 7.37	$ 7.27	$ 7.25
High Growth & Low Price	2017-2018	Jan	$ 7.52	$ 7.77	$ 7.52	$ 7.52	$ 7.52	$ 7.77	$ 7.83	$ 7.77	$ 7.79	$ 7.57
High Growth & Low Price	2017-2018	Feb	$ 7.61	$ 7.78	$ 7.61	$ 7.61	$ 7.61	$ 7.78	$ 7.86	$ 7.78	$ 7.81	$ 7.64
High Growth & Low Price	2017-2018	Mar	$ 7.29	$ 7.34	$ 7.29	$ 7.29	$ 7.29	$ 7.34	$ 7.69	$ 7.34	$ 7.46	$ 7.30
High Growth & Low Price	2017-2018	Apr	$ 6.90	$ 7.07	$ 6.90	$ 6.90	$ 6.90	$ 7.04	$ 7.10	$ 7.07	$ 7.07	$ 6.94
High Growth & Low Price	2017-2018	May	$ 6.94	$ 7.07	$ 6.94	$ 6.94	$ 6.94	$ 7.07	$ 7.13	$ 7.07	$ 7.09	$ 6.97
High Growth & Low Price	2017-2018	Jun	$ 6.94	$ 7.07	$ 6.94	$ 6.94	$ 6.94	$ 7.07	$ 7.14	$ 7.07	$ 7.09	$ 6.97
High Growth & Low Price	2017-2018	Jul	$ 7.08	$ 7.07	$ 7.07	$ 7.07	$ 7.07	$ 7.07	$ 7.18	$ 7.07	$ 7.11	$ 7.07
High Growth & Low Price	2017-2018	Aug	$ 7.09	$ 7.07	$ 7.07	$ 7.07	$ 7.07	$ 7.07	$ 7.18	$ 7.07	$ 7.11	$ 7.08
High Growth & Low Price	2017-2018	Sep	$ 7.08	$ 7.07	$ 7.07	$ 7.07	$ 7.07	$ 7.07	$ 7.17	$ 7.07	$ 7.10	$ 7.07
High Growth & Low Price	2017-2018	Oct	$ 7.13	$ 7.13	$ 7.13	$ 7.13	$ 7.13	$ 7.13	$ 7.20	$ 7.13	$ 7.15	$ 7.13
High Growth & Low Price	2018-2019	Nov	$ 7.83	$ 7.83	$ 7.83	$ 7.83	$ 7.83	$ 7.79	$ 7.86	$ 7.83	$ 7.83	$ 7.83
High Growth & Low Price	2018-2019	Dec	$ 7.85	$ 7.84	$ 7.85	$ 7.85	$ 7.85	$ 7.83	$ 7.88	$ 7.86	$ 7.86	$ 7.85
High Growth & Low Price	2018-2019	Jan	$ 7.87	$ 7.86	$ 7.87	$ 7.87	$ 7.87	$ 7.75	$ 7.78	$ 7.86	$ 7.80	$ 7.87
High Growth & Low Price	2018-2019	Feb	$ 7.67	$ 7.71	$ 7.67	$ 7.67	$ 7.67	$ 7.71	$ 7.77	$ 7.71	$ 7.73	$ 7.67
High Growth & Low Price	2018-2019	Mar	$ 7.41	$ 7.33	$ 7.41	$ 7.41	$ 7.41	$ 7.33	$ 7.62	$ 7.33	$ 7.43	$ 7.40
High Growth & Low Price	2018-2019	Apr	$ 6.92	$ 6.98	$ 6.92	$ 6.92	$ 6.92	$ 6.98	$ 7.04	$ 6.98	$ 7.00	$ 6.93
High Growth & Low Price	2018-2019	May	$ 6.93	$ 6.98	$ 6.93	$ 6.93	$ 6.93	$ 6.98	$ 7.05	$ 6.98	$ 7.00	$ 6.94
High Growth & Low Price	2018-2019	Jun	$ 6.95	$ 6.98	$ 6.95	$ 6.95	$ 6.95	$ 6.98	$ 7.07	$ 6.98	$ 7.01	$ 6.96
High Growth & Low Price	2018-2019	Jul	$ 6.96	$ 6.98	$ 6.96	$ 6.96	$ 6.96	$ 6.98	$ 7.08	$ 6.98	$ 7.01	$ 6.97
High Growth & Low Price	2018-2019	Aug	$ 6.93	$ 6.98	$ 6.93	$ 6.93	$ 6.93	$ 6.98	$ 7.06	$ 6.98	$ 7.01	$ 6.94
High Growth & Low Price	2018-2019	Sep	$ 6.97	$ 6.98	$ 6.97	$ 6.97	$ 6.97	$ 6.98	$ 7.08	$ 6.98	$ 7.01	$ 6.97
High Growth & Low Price	2018-2019	Oct	$ 7.09	$ 7.11	$ 7.11	$ 7.11	$ 7.11	$ 7.11	$ 7.17	$ 7.11	$ 7.13	$ 7.11
High Growth & Low Price	2019-2020	Nov	$ 7.87	$ 7.80	$ 7.86	$ 7.86	$ 7.86	$ 7.72	$ 7.78	$ 7.80	$ 7.77	$ 7.85
High Growth & Low Price	2019-2020	Dec	$ 7.90	$ 7.82	$ 7.90	$ 7.90	$ 7.90	$ 7.78	$ 7.83	$ 7.82	$ 7.81	$ 7.88
High Growth & Low Price	2019-2020	Jan	$ 7.67	$ 7.70	$ 7.67	$ 7.67	$ 7.67	$ 7.66	$ 7.69	$ 7.74	$ 7.70	$ 7.68
High Growth & Low Price	2019-2020	Feb	$ 7.61	$ 7.65	$ 7.61	$ 7.61	$ 7.61	$ 7.65	$ 7.72	$ 7.65	$ 7.67	$ 7.62
High Growth & Low Price	2019-2020	Mar	$ 7.52	$ 7.44	$ 7.52	$ 7.52	$ 7.52	$ 7.44	$ 7.64	$ 7.44	$ 7.51	$ 7.51
High Growth & Low Price	2019-2020	Apr	$ 6.80	$ 6.95	$ 6.80	$ 6.80	$ 6.80	$ 6.90	$ 6.95	$ 6.95	$ 6.94	$ 6.83
High Growth & Low Price	2019-2020	May	$ 6.81	$ 6.95	$ 6.81	$ 6.81	$ 6.81	$ 6.92	$ 6.98	$ 6.95	$ 6.95	$ 6.84
High Growth & Low Price	2019-2020	Jun	$ 6.86	$ 6.95	$ 6.86	$ 6.86	$ 6.86	$ 6.95	$ 7.01	$ 6.95	$ 6.97	$ 6.88
High Growth & Low Price	2019-2020	Jul	$ 6.95	$ 6.95	$ 6.95	$ 6.95	$ 6.95	$ 6.95	$ 7.07	$ 6.95	$ 6.99	$ 6.95
High Growth & Low Price	2019-2020	Aug	$ 6.91	$ 6.95	$ 6.91	$ 6.91	$ 6.91	$ 6.95	$ 7.05	$ 6.95	$ 6.98	$ 6.92
High Growth & Low Price	2019-2020	Sep	$ 7.01	$ 6.98	$ 6.98	$ 6.98	$ 6.98	$ 6.98	$ 7.12	$ 6.98	$ 7.02	$ 6.99
High Growth & Low Price	2019-2020	Oct	$ 7.14	$ 7.15	$ 7.15	$ 7.15	$ 7.15	$ 7.15	$ 7.21	$ 7.15	$ 7.17	$ 7.15
High Growth & Low Price	2020-2021	Nov	$ 7.94	$ 7.92	$ 7.93	$ 7.93	$ 7.93	$ 7.78	$ 7.84	$ 7.92	$ 7.84	$ 7.93
High Growth & Low Price	2020-2021	Dec	$ 7.93	$ 7.93	$ 7.93	$ 7.93	$ 7.93	$ 7.80	$ 7.84	$ 7.93	$ 7.86	$ 7.93
High Growth & Low Price	2020-2021	Jan	$ 7.99	$ 7.94	$ 7.99	$ 7.99	$ 7.99	$ 7.87	$ 7.90	$ 7.94	$ 7.90	$ 7.98
High Growth & Low Price	2020-2021	Feb	$ 8.01	$ 7.86	$ 8.01	$ 8.01	$ 8.01	$ 7.86	$ 7.92	$ 7.86	$ 7.88	$ 7.98
High Growth & Low Price	2020-2021	Mar	$ 7.65	$ 7.53	$ 7.65	$ 7.65	$ 7.65	$ 7.53	$ 7.63	$ 7.53	$ 7.57	$ 7.63
High Growth & Low Price	2020-2021	Apr	$ 6.92	$ 7.04	$ 6.92	$ 6.92	$ 6.92	$ 7.01	$ 7.07	$ 7.04	$ 7.04	$ 6.94
High Growth & Low Price	2020-2021	May	$ 6.89	$ 7.04	$ 6.89	$ 6.89	$ 6.89	$ 7.01	$ 7.07	$ 7.04	$ 7.04	$ 6.92
High Growth & Low Price	2020-2021	Jun	$ 6.91	$ 7.04	$ 6.91	$ 6.91	$ 6.91	$ 7.03	$ 7.09	$ 7.04	$ 7.05	$ 6.94
High Growth & Low Price	2020-2021	Jul	$ 6.94	$ 7.04	$ 6.94	$ 6.94	$ 6.94	$ 7.04	$ 7.12	$ 7.04	$ 7.07	$ 6.96
High Growth & Low Price	2020-2021	Aug	$ 6.84	$ 7.04	$ 6.84	$ 6.84	$ 6.84	$ 7.00	$ 7.06	$ 7.04	$ 7.03	$ 6.88
High Growth & Low Price	2020-2021	Sep	$ 6.91	$ 7.04	$ 6.91	$ 6.91	$ 6.91	$ 7.01	$ 7.07	$ 7.04	$ 7.04	$ 6.94
High Growth & Low Price	2020-2021	Oct	$ 6.91	$ 7.11	$ 7.11	$ 7.11	$ 7.11	$ 7.03	$ 7.09	$ 7.11	$ 7.08	$ 7.07
High Growth & Low Price	2021-2022	Nov	$ 7.73	$ 7.72	$ 7.73	$ 7.73	$ 7.73	$ 7.65	$ 7.70	$ 7.72	$ 7.69	$ 7.73
High Growth & Low Price	2021-2022	Dec	$ 8.34	$ 7.81	$ 7.81	$ 7.81	$ 7.81	$ 7.71	$ 7.74	$ 7.82	$ 7.76	$ 7.92
High Growth & Low Price	2021-2022	Jan	$ 7.73	$ 7.82	$ 7.73	$ 7.73	$ 7.73	$ 7.72	$ 7.74	$ 7.82	$ 7.76	$ 7.75
High Growth & Low Price	2021-2022	Feb	$ 7.75	$ 7.77	$ 7.75	$ 7.75	$ 7.75	$ 7.72	$ 7.77	$ 7.72	$ 7.74	$ 7.75
High Growth & Low Price	2021-2022	Mar	$ 7.58	$ 7.58	$ 7.58	$ 7.58	$ 7.58	$ 7.52	$ 7.58	$ 7.52	$ 7.54	$ 7.58
High Growth & Low Price	2021-2022	Apr	$ 6.78	$ 7.20	$ 6.78	$ 6.78	$ 6.78	$ 6.97	$ 7.03	$ 7.20	$ 7.07	$ 6.86
High Growth & Low Price	2021-2022	May	$ 6.79	$ 7.20	$ 6.79	$ 6.79	$ 6.79	$ 7.00	$ 7.06	$ 7.20	$ 7.09	$ 6.87
High Growth & Low Price	2021-2022	Jun	$ 6.81	$ 7.20	$ 6.81	$ 6.81	$ 6.81	$ 7.03	$ 7.09	$ 7.20	$ 7.11	$ 6.89
High Growth & Low Price	2021-2022	Jul	$ 6.85	$ 7.20	$ 6.85	$ 6.85	$ 6.85	$ 7.06	$ 7.12	$ 7.20	$ 7.13	$ 6.92
High Growth & Low Price	2021-2022	Aug	$ 6.86	$ 7.20	$ 6.86	$ 6.86	$ 6.86	$ 7.07	$ 7.13	$ 7.20	$ 7.13	$ 6.93
High Growth & Low Price	2021-2022	Sep	$ 6.94	$ 7.20	$ 6.94	$ 6.94	$ 6.94	$ 7.11	$ 7.17	$ 7.20	$ 7.16	$ 6.99
High Growth & Low Price	2021-2022	Oct	$ 7.01	$ 7.28	$ 7.28	$ 7.28	$ 7.28	$ 7.15	$ 7.21	$ 7.28	$ 7.22	$ 7.23
High Growth & Low Price	2022-2023	Nov	$ 7.86	$ 7.92	$ 7.86	$ 7.86	$ 7.86	$ 7.77	$ 7.83	$ 7.92	$ 7.84	$ 7.87
High Growth & Low Price	2022-2023	Dec	$ 8.43	$ 7.95	$ 7.89	$ 7.89	$ 7.89	$ 7.78	$ 7.82	$ 7.99	$ 7.86	$ 8.01
High Growth & Low Price	2022-2023	Jan	$ 7.81	$ 8.02	$ 7.81	$ 7.81	$ 7.81	$ 7.82	$ 7.85	$ 8.02	$ 7.89	$ 7.85
High Growth & Low Price	2022-2023	Feb	$ 7.83	$ 7.86	$ 7.83	$ 7.83	$ 7.83	$ 7.83	$ 7.88	$ 7.83	$ 7.85	$ 7.83
High Growth & Low Price	2022-2023	Mar	$ 7.71	$ 7.71	$ 7.71	$ 7.71	$ 7.71	$ 7.68	$ 7.73	$ 7.68	$ 7.70	$ 7.71
High Growth & Low Price	2022-2023	Apr	$ 6.84	$ 7.37	$ 6.84	$ 6.84	$ 6.84	$ 7.07	$ 7.13	$ 7.40	$ 7.20	$ 6.95
High Growth & Low Price	2022-2023	May	$ 6.87	$ 7.37	$ 6.87	$ 6.87	$ 6.87	$ 7.11	$ 7.17	$ 7.40	$ 7.23	$ 6.97
High Growth & Low Price	2022-2023	Jun	$ 6.90	$ 7.37	$ 6.90	$ 6.90	$ 6.90	$ 7.15	$ 7.21	$ 7.40	$ 7.25	$ 6.99
High Growth & Low Price	2022-2023	Jul	$ 6.96	$ 7.37	$ 6.96	$ 6.96	$ 6.96	$ 7.19	$ 7.25	$ 7.40	$ 7.28	$ 7.04
High Growth & Low Price	2022-2023	Aug	$ 6.95	$ 7.40	$ 6.95	$ 6.95	$ 6.95	$ 7.18	$ 7.24	$ 7.40	$ 7.27	$ 7.04
High Growth & Low Price	2022-2023	Sep	$ 7.08	$ 7.40	$ 7.08	$ 7.08	$ 7.08	$ 7.23	$ 7.29	$ 7.40	$ 7.31	$ 7.15
High Growth & Low Price	2022-2023	Oct	$ 7.15	$ 7.50	$ 7.50	$ 7.50	$ 7.50	$ 7.29	$ 7.35	$ 7.50	$ 7.38	$ 7.43
High Growth & Low Price	2023-2024	Nov	$ 8.05	$ 8.16	$ 8.05	$ 8.05	$ 8.05	$ 7.92	$ 7.98	$ 8.16	$ 8.02	$ 8.07
High Growth & Low Price	2023-2024	Dec	$ 8.64	$ 8.19	$ 8.09	$ 8.09	$ 8.09	$ 7.96	$ 8.00	$ 8.25	$ 8.07	$ 8.22
High Growth & Low Price	2023-2024	Jan	$ 8.12	$ 8.29	$ 8.12	$ 8.12	$ 8.12	$ 8.09	$ 8.12	$ 8.29	$ 8.17	$ 8.16
High Growth & Low Price	2023-2024	Feb	$ 8.09	$ 8.13	$ 8.09	$ 8.09	$ 8.09	$ 8.07	$ 8.10	$ 8.08	$ 8.09	$ 8.10
High Growth & Low Price	2023-2024	Mar	$ 7.92	$ 7.92	$ 7.92	$ 7.92	$ 7.92	$ 7.88	$ 7.94	$ 7.88	$ 7.90	$ 7.92
High Growth & Low Price	2023-2024	Apr	$ 7.03	$ 7.60	$ 7.03	$ 7.03	$ 7.03	$ 7.27	$ 7.33	$ 7.61	$ 7.40	$ 7.15
High Growth & Low Price	2023-2024	May	$ 7.06	$ 7.60	$ 7.06	$ 7.06	$ 7.06	$ 7.31	$ 7.36	$ 7.61	$ 7.43	$ 7.17
High Growth & Low Price	2023-2024	Jun	$ 7.12	$ 7.60	$ 7.12	$ 7.12	$ 7.12	$ 7.36	$ 7.41	$ 7.61	$ 7.46	$ 7.22
High Growth & Low Price	2023-2024	Jul	$ 7.14	$ 7.60	$ 7.14	$ 7.14	$ 7.14	$ 7.38	$ 7.43	$ 7.61	$ 7.47	$ 7.23
High Growth & Low Price	2023-2024	Aug	$ 7.15	$ 7.61	$ 7.15	$ 7.15	$ 7.15	$ 7.39	$ 7.44	$ 7.61	$ 7.48	$ 7.24
High Growth & Low Price	2023-2024	Sep	$ 7.27	$ 7.61	$ 7.27	$ 7.27	$ 7.27	$ 7.45	$ 7.50	$ 7.61	$ 7.52	$ 7.34
High Growth & Low Price	2023-2024	Oct	$ 7.39	$ 7.73	$ 7.73	$ 7.73	$ 7.73	$ 7.51	$ 7.56	$ 7.73	$ 7.60	$ 7.66
High Growth & Low Price	2024-2025	Nov	$ 8.30	$ 8.34	$ 8.30	$ 8.30	$ 8.30	$ 8.11	$ 8.17	$ 8.35	$ 8.21	$ 8.31
High Growth & Low Price	2024-2025	Dec	$ 8.92	$ 8.40	$ 8.36	$ 8.36	$ 8.36	$ 8.19	$ 8.22	$ 8.46	$ 8.29	$ 8.48
High Growth & Low Price	2024-2025	Jan	$ 8.32	$ 8.49	$ 8.32	$ 8.32	$ 8.32	$ 8.27	$ 8.30	$ 8.49	$ 8.35	$ 8.35
High Growth & Low Price	2024-2025	Feb	$ 8.30	$ 8.33	$ 8.30	$ 8.30	$ 8.30	$ 8.28	$ 8.31	$ 8.29	$ 8.29	$ 8.30
High Growth & Low Price	2024-2025	Mar	$ 8.05	$ 8.05	$ 8.05	$ 8.05	$ 8.05	$ 8.02	$ 8.08	$ 8.02	$ 8.04	$ 8.05
High Growth & Low Price	2024-2025	Apr	$ 7.17	$ 7.76	$ 7.17	$ 7.17	$ 7.17	$ 7.45	$ 7.50	$ 7.79	$ 7.58	$ 7.29
High Growth & Low Price	2024-2025	May	$ 7.21	$ 7.76	$ 7.21	$ 7.21	$ 7.21	$ 7.48	$ 7.53	$ 7.79	$ 7.60	$ 7.32
High Growth & Low Price	2024-2025	Jun	$ 7.26	$ 7.76	$ 7.26	$ 7.26	$ 7.26	$ 7.52	$ 7.57	$ 7.79	$ 7.63	$ 7.36

Appendix 6.4 - Monthly Avoided Cost Detail 1/

2009$

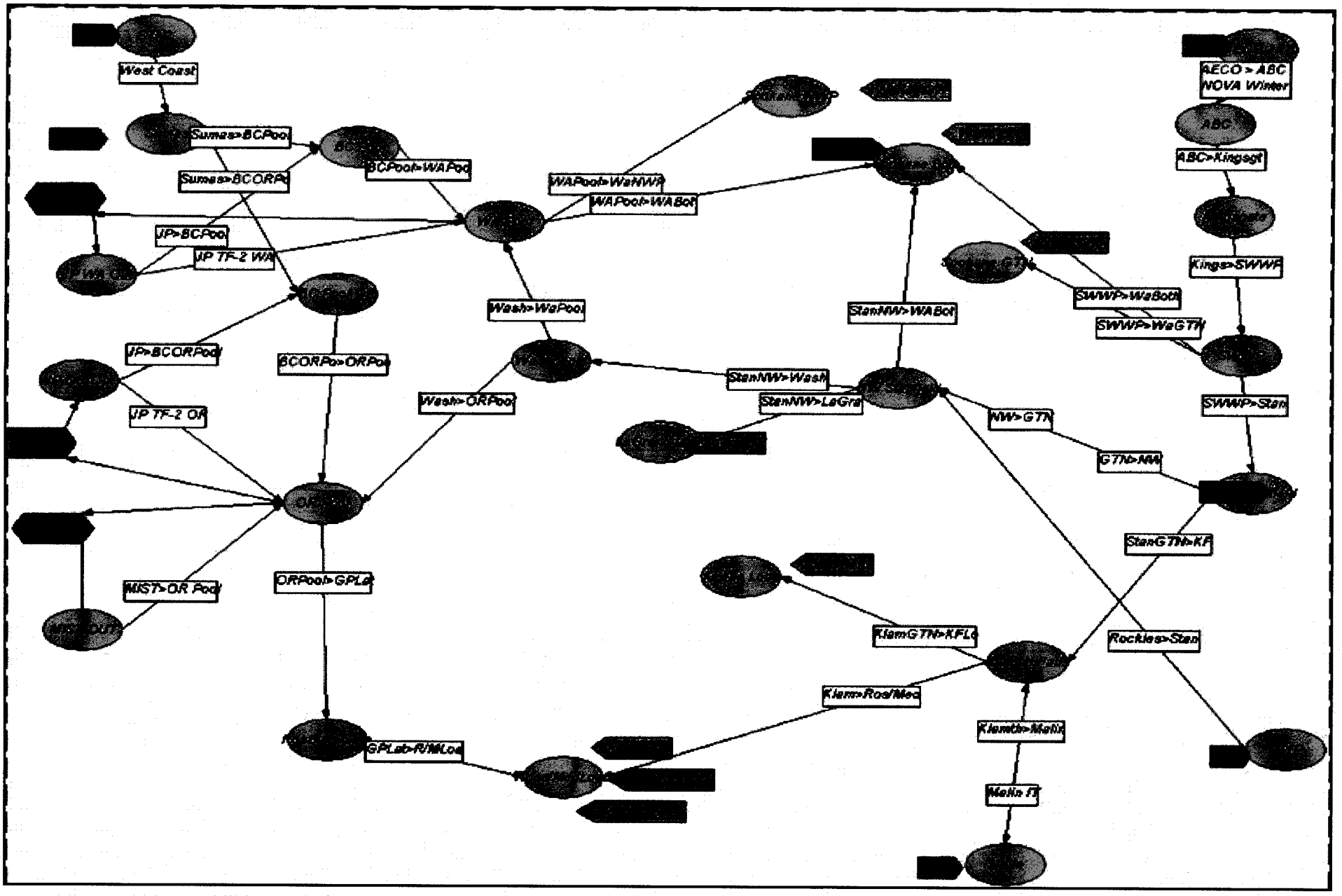
Scenario	Gas Year	Month	Klam Falls	La Grande	Medford GTN	Medford NWP	Roseburg	Wa/Id Both	Wa/Id GTN	Wa/Id NWP	WA/ID Annual	OR Annual
High Growth & Low Price	2024-2025	Jul	$ 7.27	$ 7.76	$ 7.27	$ 7.27	$ 7.27	$ 7.55	$ 7.60	$ 7.79	$ 7.65	$ 7.37
High Growth & Low Price	2024-2025	Aug	$ 7.32	$ 7.79	$ 7.32	$ 7.32	$ 7.32	$ 7.58	$ 7.61	$ 7.79	$ 7.65	$ 7.41
High Growth & Low Price	2024-2025	Sep	$ 7.42	$ 7.83	$ 7.42	$ 7.42	$ 7.42	$ 7.60	$ 7.65	$ 7.83	$ 7.69	$ 7.50
High Growth & Low Price	2024-2025	Oct	$ 7.52	$ 7.91	$ 7.91	$ 7.91	$ 7.91	$ 7.66	$ 7.71	$ 7.91	$ 7.76	$ 7.63
High Growth & Low Price	2025-2026	Nov	$ 8.53	$ 8.57	$ 8.53	$ 8.53	$ 8.53	$ 8.32	$ 8.38	$ 8.58	$ 8.43	$ 8.54
High Growth & Low Price	2025-2026	Dec	$ 9.02	$ 8.53	$ 8.45	$ 8.45	$ 8.45	$ 8.30	$ 8.33	$ 8.63	$ 8.42	$ 8.58
High Growth & Low Price	2025-2026	Jan	$ 8.50	$ 8.66	$ 8.50	$ 8.50	$ 8.50	$ 8.43	$ 8.46	$ 8.68	$ 8.53	$ 8.53
High Growth & Low Price	2025-2026	Feb	$ 8.47	$ 8.51	$ 8.47	$ 8.47	$ 8.47	$ 8.44	$ 8.47	$ 8.46	$ 8.46	$ 8.48
High Growth & Low Price	2025-2026	Mar	$ 8.30	$ 8.30	$ 8.30	$ 8.30	$ 8.30	$ 8.23	$ 8.29	$ 8.23	$ 8.25	$ 8.30
High Growth & Low Price	2025-2026	Apr	$ 7.35	$ 7.94	$ 7.35	$ 7.35	$ 7.35	$ 7.63	$ 7.68	$ 7.94	$ 7.75	$ 7.46
High Growth & Low Price	2025-2026	May	$ 7.37	$ 7.94	$ 7.37	$ 7.37	$ 7.37	$ 7.66	$ 7.71	$ 7.94	$ 7.77	$ 7.49
High Growth & Low Price	2025-2026	Jun	$ 7.42	$ 7.94	$ 7.42	$ 7.42	$ 7.42	$ 7.70	$ 7.75	$ 7.94	$ 7.80	$ 7.52
High Growth & Low Price	2025-2026	Jul	$ 7.43	$ 7.94	$ 7.43	$ 7.43	$ 7.43	$ 7.72	$ 7.77	$ 7.94	$ 7.81	$ 7.53
High Growth & Low Price	2025-2026	Aug	$ 7.44	$ 7.94	$ 7.44	$ 7.44	$ 7.44	$ 7.72	$ 7.77	$ 7.94	$ 7.81	$ 7.54
High Growth & Low Price	2025-2026	Sep	$ 7.56	$ 7.97	$ 7.56	$ 7.56	$ 7.56	$ 7.77	$ 7.83	$ 7.97	$ 7.85	$ 7.64
High Growth & Low Price	2025-2026	Oct	$ 7.68	$ 8.01	$ 8.01	$ 8.01	$ 8.01	$ 7.83	$ 7.89	$ 8.01	$ 7.91	$ 7.94
High Growth & Low Price	2026-2027	Nov	$ 8.59	$ 8.66	$ 8.59	$ 8.59	$ 8.59	$ 8.40	$ 8.46	$ 8.68	$ 8.51	$ 8.60
High Growth & Low Price	2026-2027	Dec	$ 9.17	$ 8.72	$ 8.59	$ 8.59	$ 8.59	$ 8.46	$ 8.49	$ 8.79	$ 8.58	$ 8.73
High Growth & Low Price	2026-2027	Jan	$ 8.65	$ 8.82	$ 8.65	$ 8.65	$ 8.65	$ 8.60	$ 8.62	$ 8.83	$ 8.68	$ 8.68
High Growth & Low Price	2026-2027	Feb	$ 8.69	$ 8.73	$ 8.69	$ 8.69	$ 8.69	$ 8.67	$ 8.70	$ 8.69	$ 8.68	$ 8.70
High Growth & Low Price	2026-2027	Mar	$ 8.56	$ 8.56	$ 8.56	$ 8.56	$ 8.56	$ 8.45	$ 8.51	$ 8.45	$ 8.47	$ 8.56
High Growth & Low Price	2026-2027	Apr	$ 7.60	$ 8.17	$ 7.60	$ 7.60	$ 7.60	$ 7.86	$ 7.92	$ 8.21	$ 8.00	$ 7.71
High Growth & Low Price	2026-2027	May	$ 7.61	$ 8.17	$ 7.61	$ 7.61	$ 7.61	$ 7.88	$ 7.94	$ 8.21	$ 8.01	$ 7.72
High Growth & Low Price	2026-2027	Jun	$ 7.64	$ 8.17	$ 7.64	$ 7.64	$ 7.64	$ 7.91	$ 7.97	$ 8.21	$ 8.03	$ 7.75
High Growth & Low Price	2026-2027	Jul	$ 7.64	$ 8.17	$ 7.64	$ 7.64	$ 7.64	$ 7.92	$ 7.98	$ 8.21	$ 8.04	$ 7.75
High Growth & Low Price	2026-2027	Aug	$ 7.69	$ 8.21	$ 7.69	$ 7.69	$ 7.69	$ 7.96	$ 8.02	$ 8.21	$ 8.06	$ 7.79
High Growth & Low Price	2026-2027	Sep	$ 7.75	$ 8.24	$ 7.75	$ 7.75	$ 7.75	$ 7.96	$ 8.02	$ 8.24	$ 8.07	$ 7.85
High Growth & Low Price	2026-2027	Oct	$ 7.85	$ 8.30	$ 8.30	$ 8.30	$ 8.30	$ 8.01	$ 8.07	$ 8.30	$ 8.13	$ 8.21
High Growth & Low Price	2027-2028	Nov	$ 8.78	$ 8.85	$ 8.78	$ 8.78	$ 8.78	$ 8.59	$ 8.66	$ 8.87	$ 8.71	$ 8.80
High Growth & Low Price	2027-2028	Dec	$ 9.37	$ 8.92	$ 8.80	$ 8.80	$ 8.80	$ 8.65	$ 8.68	$ 9.00	$ 8.78	$ 8.94
High Growth & Low Price	2027-2028	Jan	$ 8.84	$ 9.02	$ 8.84	$ 8.84	$ 8.84	$ 8.79	$ 8.82	$ 9.02	$ 8.88	$ 8.88
High Growth & Low Price	2027-2028	Feb	$ 8.89	$ 8.92	$ 8.89	$ 8.89	$ 8.89	$ 8.86	$ 8.89	$ 8.88	$ 8.88	$ 8.89
High Growth & Low Price	2027-2028	Mar	$ 8.76	$ 8.76	$ 8.76	$ 8.76	$ 8.76	$ 8.64	$ 8.71	$ 8.64	$ 8.66	$ 8.76
High Growth & Low Price	2027-2028	Apr	$ 7.79	$ 8.36	$ 7.79	$ 7.79	$ 7.79	$ 8.05	$ 8.11	$ 8.41	$ 8.19	$ 7.91
High Growth & Low Price	2027-2028	May	$ 7.79	$ 8.36	$ 7.79	$ 7.79	$ 7.79	$ 8.06	$ 8.12	$ 8.41	$ 8.19	$ 7.91
High Growth & Low Price	2027-2028	Jun	$ 7.83	$ 8.36	$ 7.83	$ 7.83	$ 7.83	$ 8.10	$ 8.16	$ 8.41	$ 8.22	$ 7.94
High Growth & Low Price	2027-2028	Jul	$ 7.83	$ 8.36	$ 7.83	$ 7.83	$ 7.83	$ 8.11	$ 8.17	$ 8.41	$ 8.23	$ 7.94
High Growth & Low Price	2027-2028	Aug	$ 7.88	$ 8.40	$ 7.88	$ 7.88	$ 7.88	$ 8.15	$ 8.21	$ 8.41	$ 8.26	$ 7.99
High Growth & Low Price	2027-2028	Sep	$ 7.94	$ 8.44	$ 7.94	$ 7.94	$ 7.94	$ 8.15	$ 8.21	$ 8.44	$ 8.27	$ 8.04
High Growth & Low Price	2027-2028	Oct	$ 8.04	$ 8.50	$ 8.50	$ 8.50	$ 8.50	$ 8.20	$ 8.26	$ 8.50	$ 8.32	$ 8.41
High Growth & Low Price	2028-2029	Nov	$ 8.98	$ 9.05	$ 8.98	$ 8.98	$ 8.98	$ 8.78	$ 8.85	$ 9.07	$ 8.90	$ 8.99
High Growth & Low Price	2028-2029	Dec	$ 9.58	$ 9.13	$ 9.01	$ 9.01	$ 9.01	$ 8.86	$ 8.88	$ 9.39	$ 9.05	$ 9.15
High Growth & Low Price	2028-2029	Jan	$ 9.05	$ 9.22	$ 9.05	$ 9.05	$ 9.05	$ 8.99	$ 9.02	$ 9.35	$ 9.12	$ 9.08
High Growth & Low Price	2028-2029	Feb	$ 9.09	$ 9.13	$ 9.09	$ 9.09	$ 9.09	$ 9.07	$ 9.10	$ 9.09	$ 9.09	$ 9.10
High Growth & Low Price	2028-2029	Mar	$ 8.96	$ 8.96	$ 8.96	$ 8.96	$ 8.96	$ 8.83	$ 8.90	$ 8.83	$ 8.86	$ 8.96
High Growth & Low Price	2028-2029	Apr	$ 7.99	$ 8.53	$ 7.99	$ 7.99	$ 7.99	$ 8.24	$ 8.30	$ 8.53	$ 8.36	$ 8.10
High Growth & Low Price	2028-2029	May	$ 8.01	$ 8.53	$ 8.01	$ 8.01	$ 8.01	$ 8.26	$ 8.32	$ 8.53	$ 8.37	$ 8.12
High Growth & Low Price	2028-2029	Jun	$ 8.03	$ 8.56	$ 8.03	$ 8.03	$ 8.03	$ 8.29	$ 8.35	$ 8.56	$ 8.40	$ 8.14
High Growth & Low Price	2028-2029	Jul	$ 8.02	$ 8.53	$ 8.02	$ 8.02	$ 8.02	$ 8.30	$ 8.36	$ 8.53	$ 8.40	$ 8.12
High Growth & Low Price	2028-2029	Aug	$ 8.07	$ 8.53	$ 8.07	$ 8.07	$ 8.07	$ 8.34	$ 8.40	$ 8.53	$ 8.42	$ 8.16
High Growth & Low Price	2028-2029	Sep	$ 8.14	$ 8.63	$ 8.14	$ 8.14	$ 8.14	$ 8.35	$ 8.41	$ 8.63	$ 8.46	$ 8.24
High Growth & Low Price	2028-2029	Oct	$ 8.25	$ 8.69	$ 8.69	$ 8.69	$ 8.69	$ 8.39	$ 8.45	$ 8.69	$ 8.51	$ 8.60

1/ Avoided costs shown before Environmental Externalities adder.

APPENDIX 6.5

SENDOUT® MODEL DIAGRAM

Appendix 6.5 *SENDOUT® Model Diagram*



APPENDIX 7.1

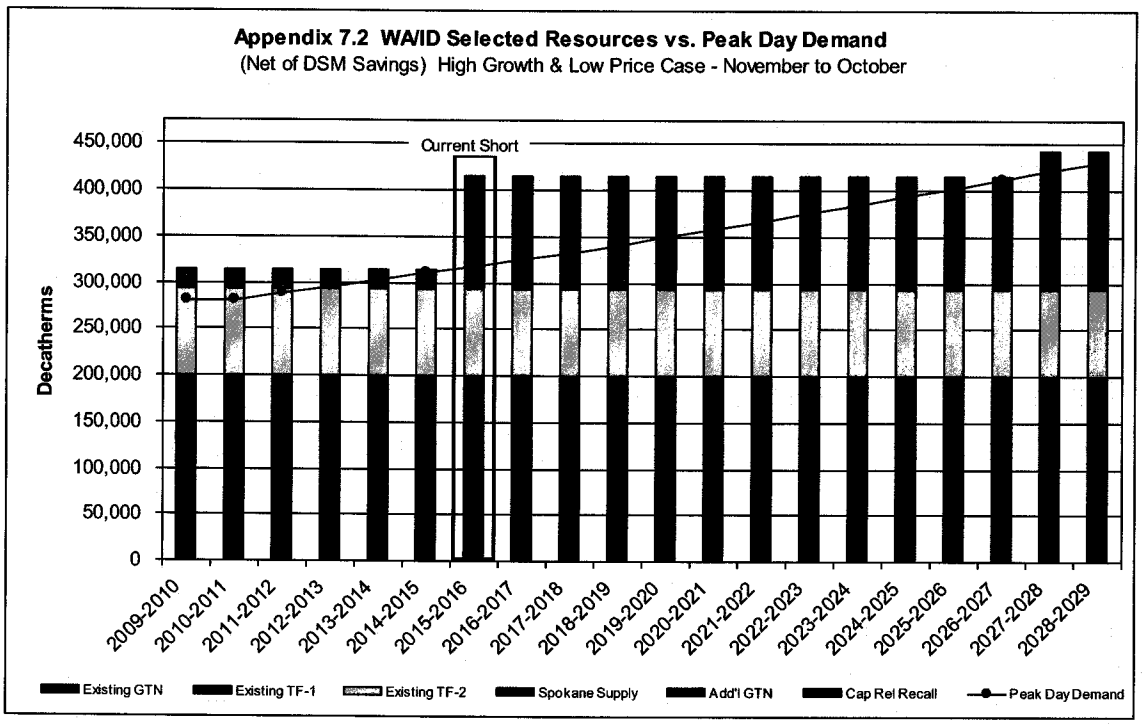
SENSITIVIES, SCNEARIOS, SIMULATIONS, AND PORTFOLIOS LIST

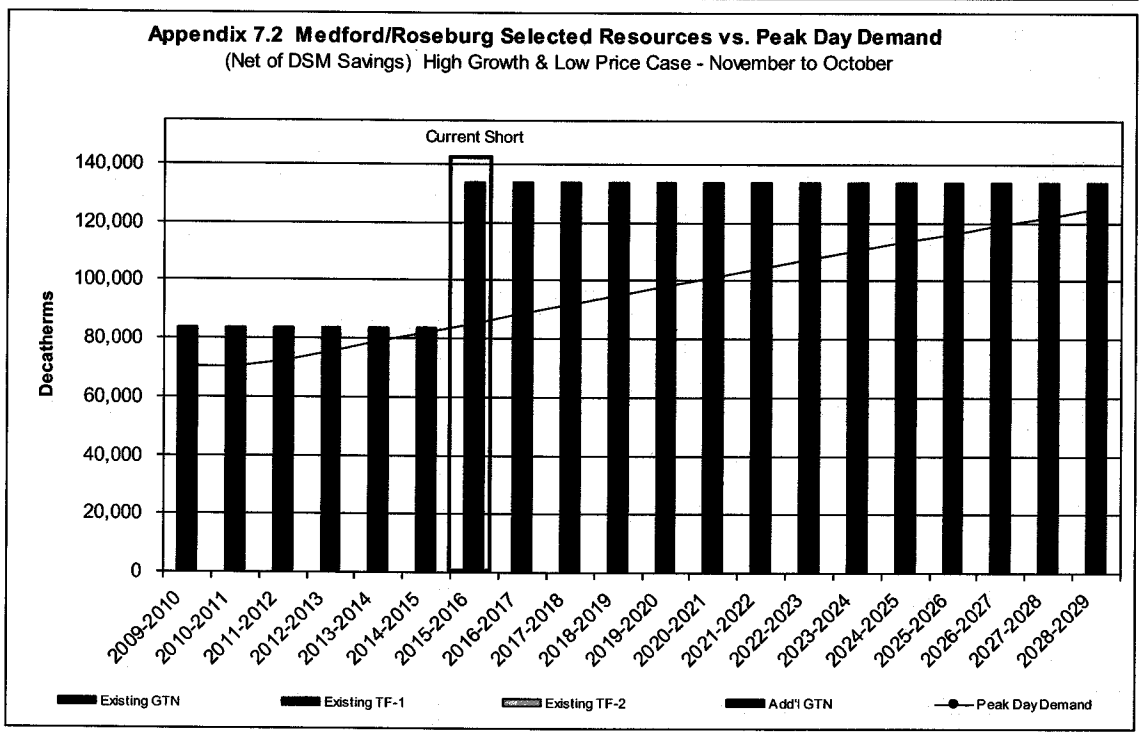
Appendix 7.1 - Avista 2009 IRP Sensitivies, Scenarios, Simulations, and Portfolios

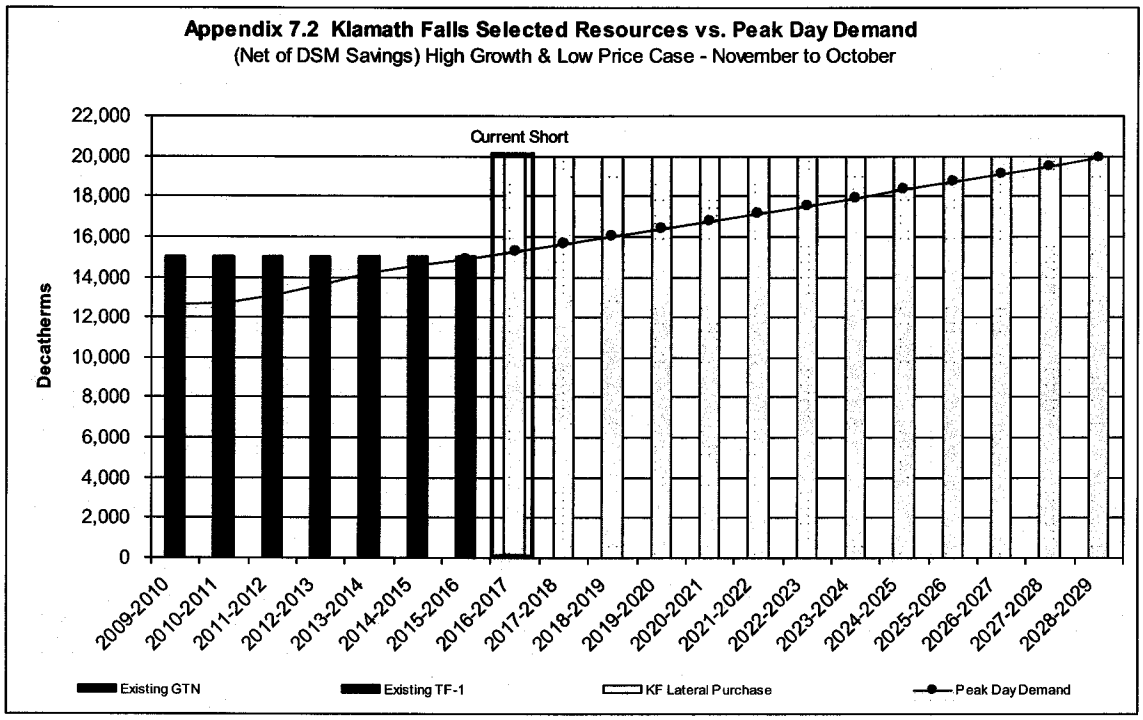
SENDOUT® #	Sensitivity, Portfolio, or Simulation	Case Name	Demand Scenario	Supply Scenario	Major Assumptions
1111	Portfolio	Expected Case	Expected Case	Current Resources	Coldest day on record, expected customer growth rates, expected price curve, low elasticity, carbon adder $5-$67
1113	Portfolio		Expected Case	Current plus currently available	Includes current transporation network, recalls of capacity releases, unsubscribed transport on existing pipelines, capacity expansions, capacity releases, and backhauls.
1120	Portfolio		Expected Case	GTN Turnback Double Cost	Expected case demand assumptions plus current supply resources and currently available resources. However, the GTN rates are doubled to incorporate the major turnback of capacity on their system.
1121	Portfolio		Expected Case	GTN Line Decomission	Expected case demand assumptions plus current supply resources and currently available resources. However, there is no more available capacity on GTN's system due to the decomissioing of one of their lines caused by capacity turnback.
1110	Portfolio	Coldest in 20 Years	Coldest in 20 Years	Current Resources	Coldest day in the last 20 years, expected customer growth rates, expected price curve, expected elasticity, carbon adder $5-$67
1114	Portfolio	Supply Constrained	Supply Constrained	Existing Resources	Coldest day on record, expected customer growth rates, high price curve, expected elasticity, carbon adder $5-$67, $.30 drilling constraints adder, and $.20 to $3.00 Canadian drilling declines.
1109	Portfolio	Green Future	Green Future	Current Resources	Coldest day on record, expected customer growth rates, high elasticity, epxected price curve, carbon adder $37-$140, drilling constraints adder $1.
1108	Portfolio	High Growth & Low Prices	High Growth & Low Prices	Current Resources	Coldest day on record, 50% increase in customer growth rates, low price curve, low elasticity, carbon adder $5-$67
1115	Portfolio		High Growth & Low Prices	Current plus currently available	Includes current transporation network, recalls of capacity releases, unsubscribed transport on existing pipelines, citygate purchases, and backhauls.
1107	Portfolio	Low Growth & High Prices	Low Growth & High Prices	Current Resources	Coldest day on record, 50% decrease in customer growth rates, high price curve, high elasticity, carbon adder $5-$67, drilling constrains adder $1.
1117	Portfolio	Expected with Medium Elasticity	Expected Case	Current Resources	Expected case demand assumptions updated with medium price elasticity and price curve plus current supply resources.
	Portfolio		Expected Case	Current Resources plus currently available	Expected case demand assumptions updated with medium price elasticity and price curve plus current supply resource and currently available supply resources.
1118	Portfolio	Expected with High Elasticity	Updated Expected with High Elasticity	Current Resouces	Expected case demand assumptions updated with high price elasticity and price curve plus current supply resources.
1022	Sensitivity	Reference Case		Current Resources	Coldest day on record, expected customer growth rates, flat use per customer, no elasticity, expected price curve, no carbon adders or drilling constraints.
1011	Sensitivity	Low Elasticity		Current Resources	Reference case assumptions plus low elasticity
1009	Sensitivity	High Elasticity		Current Resources	Reference case assumptions plus high elasticity
1006	Sensitivity	Peak Day -1		Current Resources	Reference case assumptions with peak HDD's less 1
1018	Sensitivity	Low Growth		Current Resources	Reference case assumptions with low customer growth rates
1017	Sensitivity	High Growth		Current Resources	Reference case assumptions with high customer growth rates
1021	Sensitivity	Coldest in 20 Years		Current Resources	Reference case with coldest day in 20 years as the planning standard
1015	Sensitivity	Canada Dry 1		Current Resources	Reference case assumptions with $.50 adder for competition for Canadian gas
1007	Sensitivity	Peak Day -2		Current Resources	Reference case assumptions with peak day HDD's less 2
1014	Sensitivity	CNG Vehicles		Current Resources	Reference case assumptions with increasing demand due to CNG vehicle penetration.
1013	Sensitivity	Carbon Mitigation 2		Current Resources	Reference case with $5-$67/ton carbon adder
1012	Sensitivity	Carbon Mitigation 1		Current Resources	Reference case with $37-$140/ton adder
1019	Sensitivity	High Price		Current Resources	Reference case assumptions with high price curve
1020	Sensitivity	Low Price		Current Resources	Reference case assumptions with low price curve
1010	Sensitivity	Epxected Elasticity		Current Resources	Reference case assumptions plus expected elasticity
1016	Sensitivity	Drilling Constraints		Current Resources	Reference case with $.30 adder for drilling constraints
	Simulation	Weather Monte Carlo	Expected Case	Current Resources	Expected case demand assumptions with 200 draws of weather, used to determine unserved impact and fequency of peak day.
1023	Simulation	Price Monte Carlo	Expected Case	Current Resources plus currently available	Expected case demand assumptions with 200 draws of price, used to assess the risk to customers of price variability.

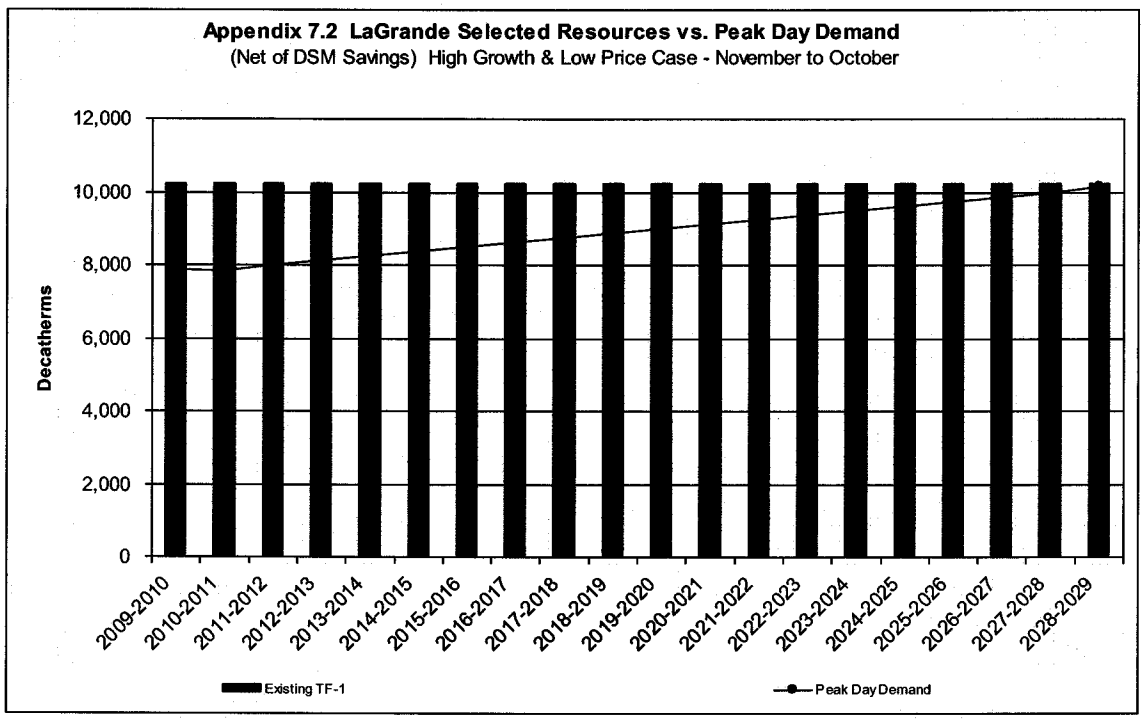
APPENDIX 7.2

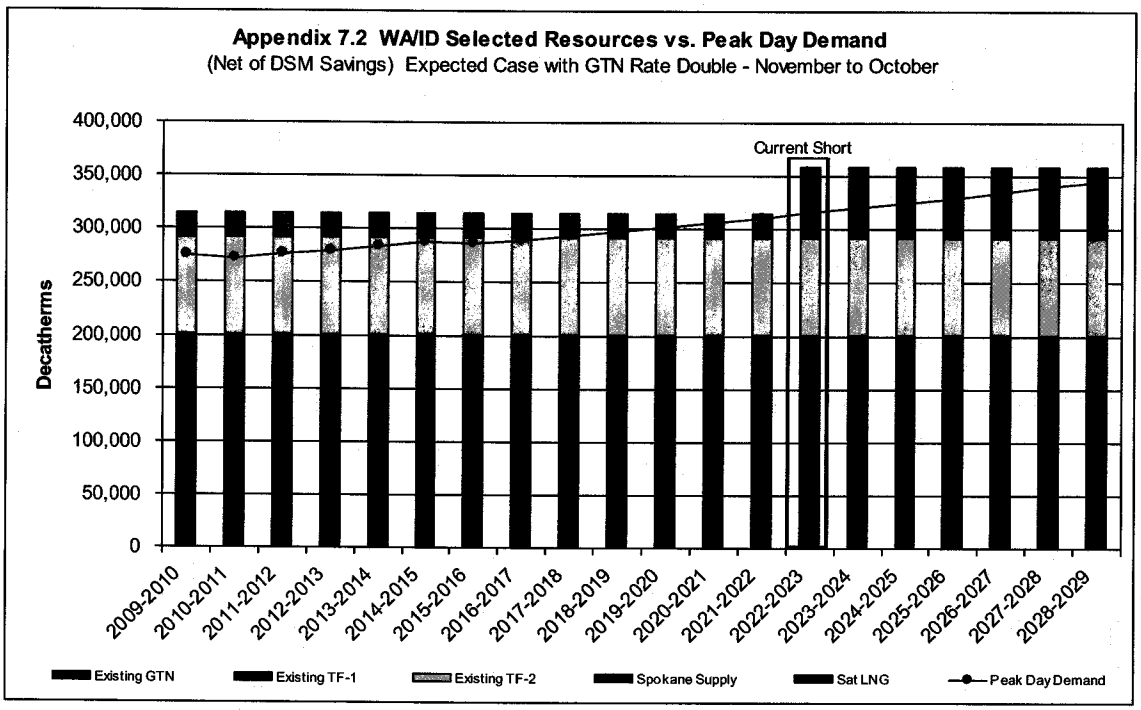
DEMAND AND EXPECTED RESOURCE GRAPHS

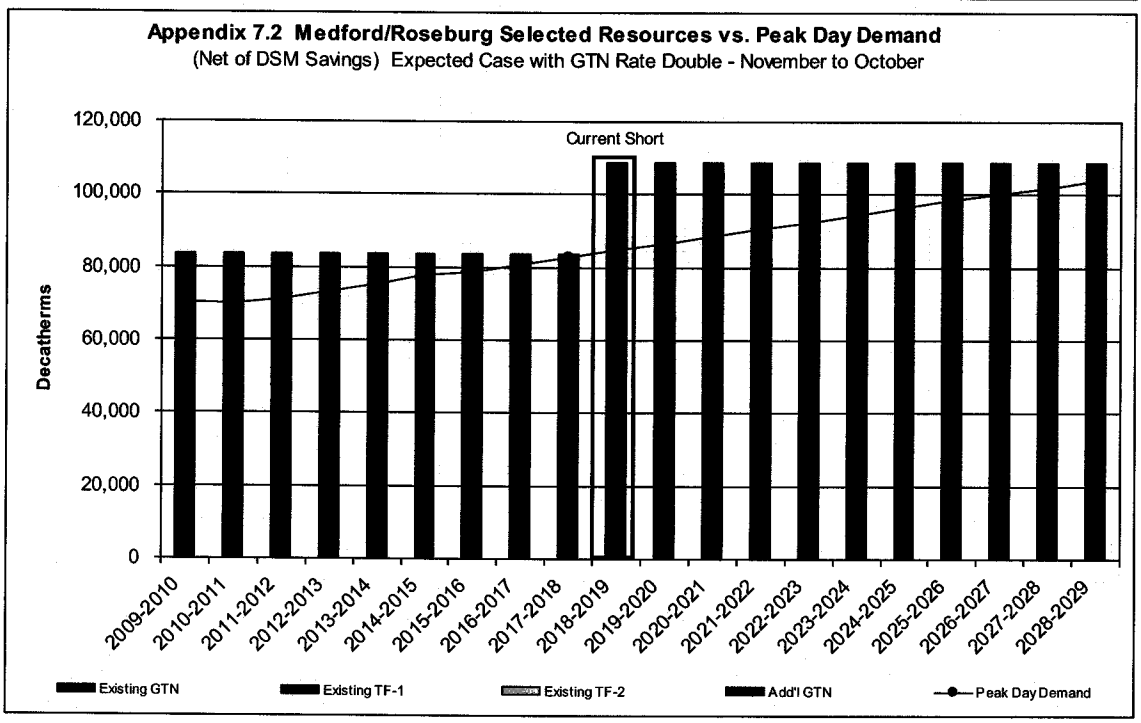

Appendix 7.2 WA/ID Selected Resources vs. Peak Day Demand
(Net of DSM Savings) High Growth & Low Price Case - November to October
Current Short
Decatherms
450,000
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
2018-2019
2019-2020
2020-2021
2021-2022
2022-2023
2023-2024
2024-2025
2025-2026
2026-2027
2027-2028
2028-2029
Existing GTN
Existing TF-1
Existing TF-2
Spokane Supply
Add'l GTN
Cap Rel Recall
Peak Day Demand

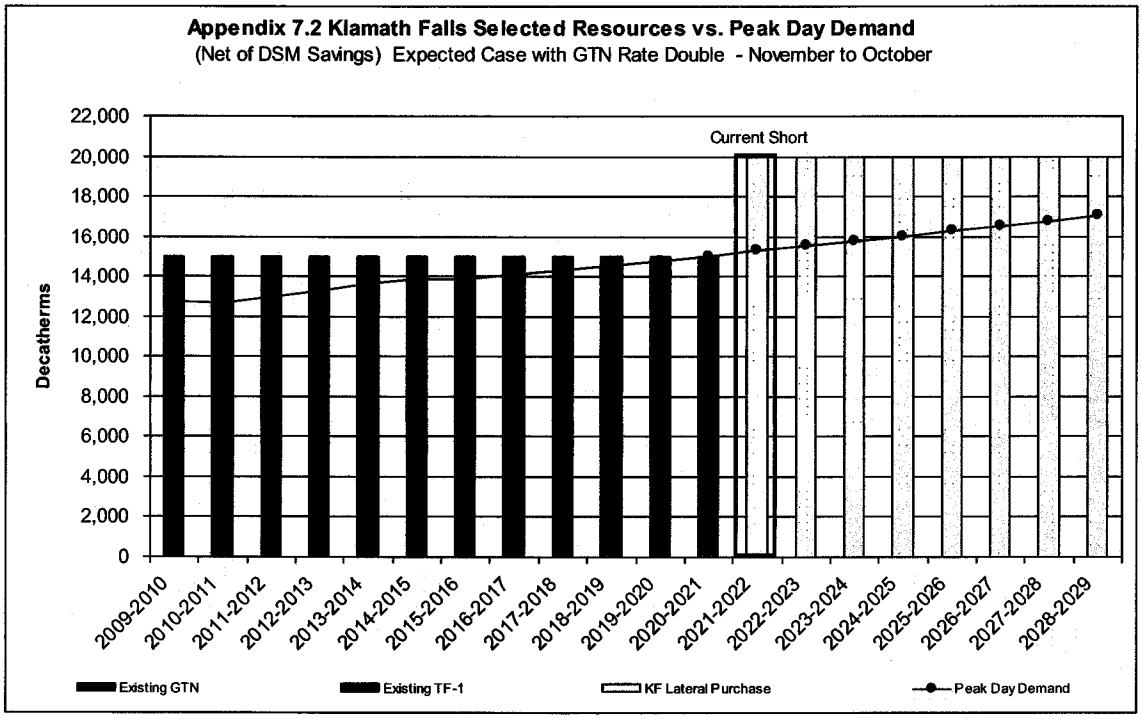

Appendix 7.2 Medford/Roseburg Selected Resources vs. Peak Day Demand
(Net of DSM Savings) High Growth & Low Price Case - November to October
Current Short
Decatherms
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
2018-2019
2019-2020
2020-2021
2021-2022
2022-2023
2023-2024
2024-2025
2025-2026
2026-2027
2027-2028
2028-2029
Existing GTN
Existing TF-1
Existing TF-2
Add'l GTN
Peak Day Demand

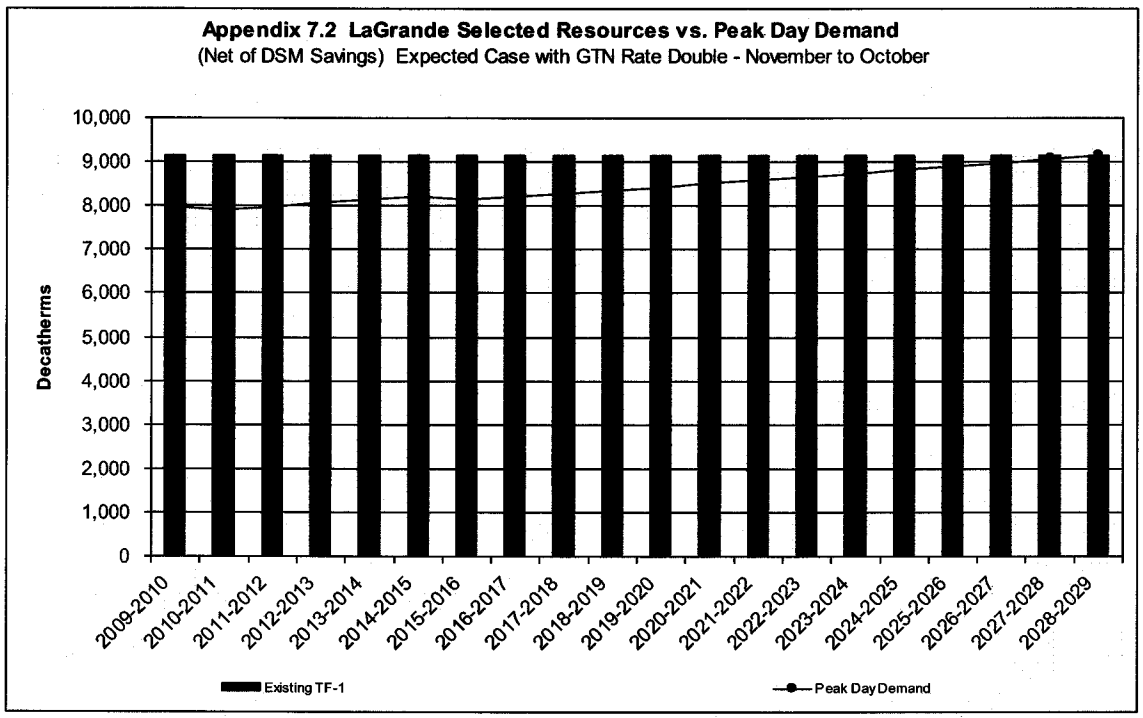

Appendix 7.2 Klamath Falls Selected Resources vs. Peak Day Demand
(Net of DSM Savings) High Growth & Low Price Case - November to October
Current Short
Decatherms
22,000
20,000
18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
2018-2019
2019-2020
2020-2021
2021-2022
2022-2023
2023-2024
2024-2025
2025-2026
2026-2027
2027-2028
2028-2029
Existing GTN
Existing TF-1
KF Lateral Purchase
Peak Day Demand

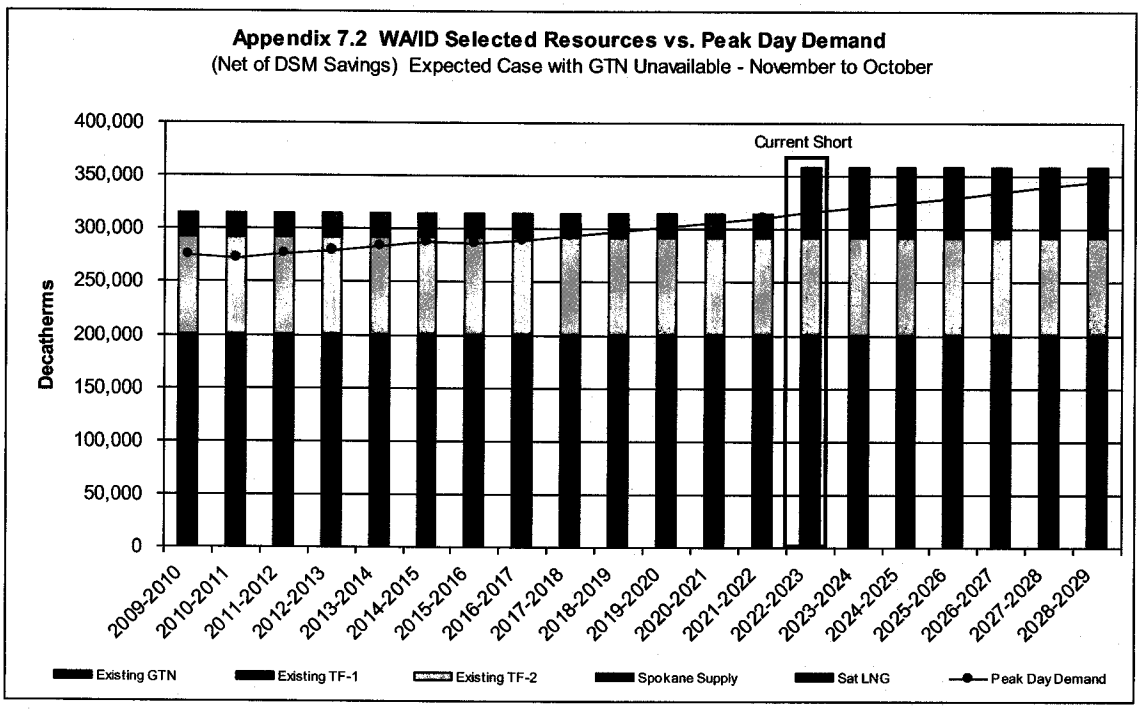

Appendix 7.2 LaGrande Selected Resources vs. Peak Day Demand
(Net of DSM Savings) High Growth & Low Price Case - November to October
Decatherms
12,000
10,000
8,000
6,000
4,000
2,000
0
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
2018-2019
2019-2020
2020-2021
2021-2022
2022-2023
2023-2024
2024-2025
2025-2026
2026-2027
2027-2028
2028-2029
Existing TF-1
Peak Day Demand

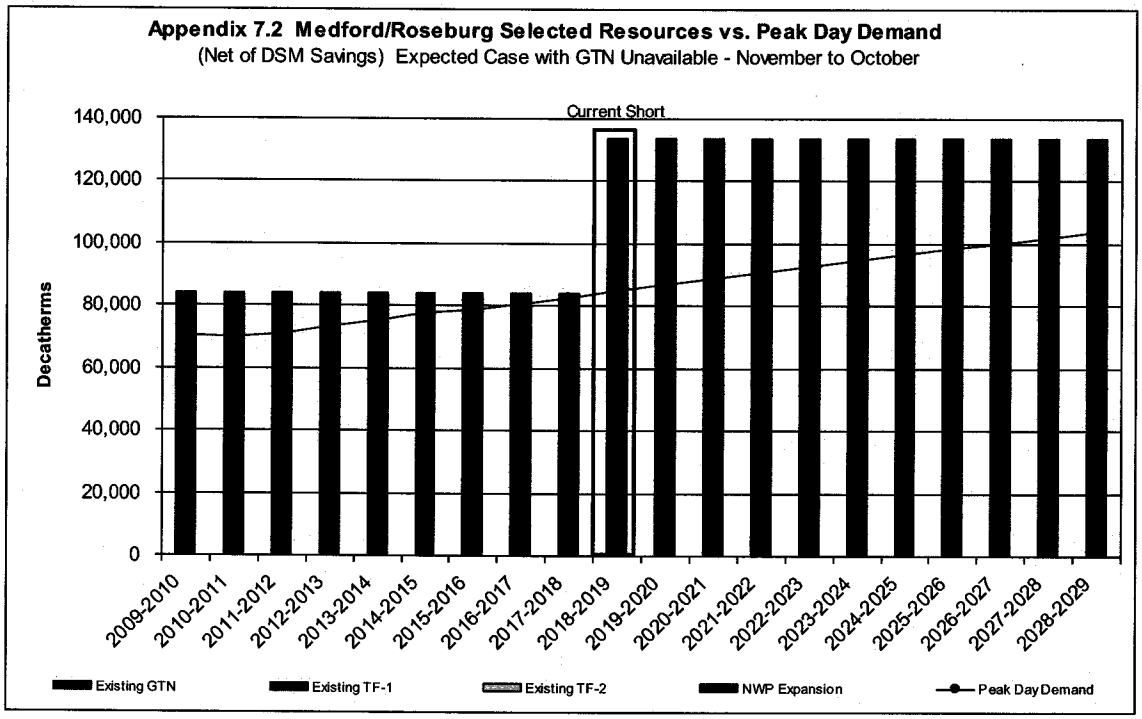

Appendix 7.2 WA/ID Selected Resources vs. Peak Day Demand
(Net of DSM Savings) Expected Case with GTN Rate Double - November to October
Decatherms
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
Current Short
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
2018-2019
2019-2020
2020-2021
2021-2022
2022-2023
2023-2024
2024-2025
2025-2026
2026-2027
2027-2028
2028-2029
Existing GTN
Existing TF-1
Existing TF-2
Spokane Supply
Sat LNG
Peak Day Demand

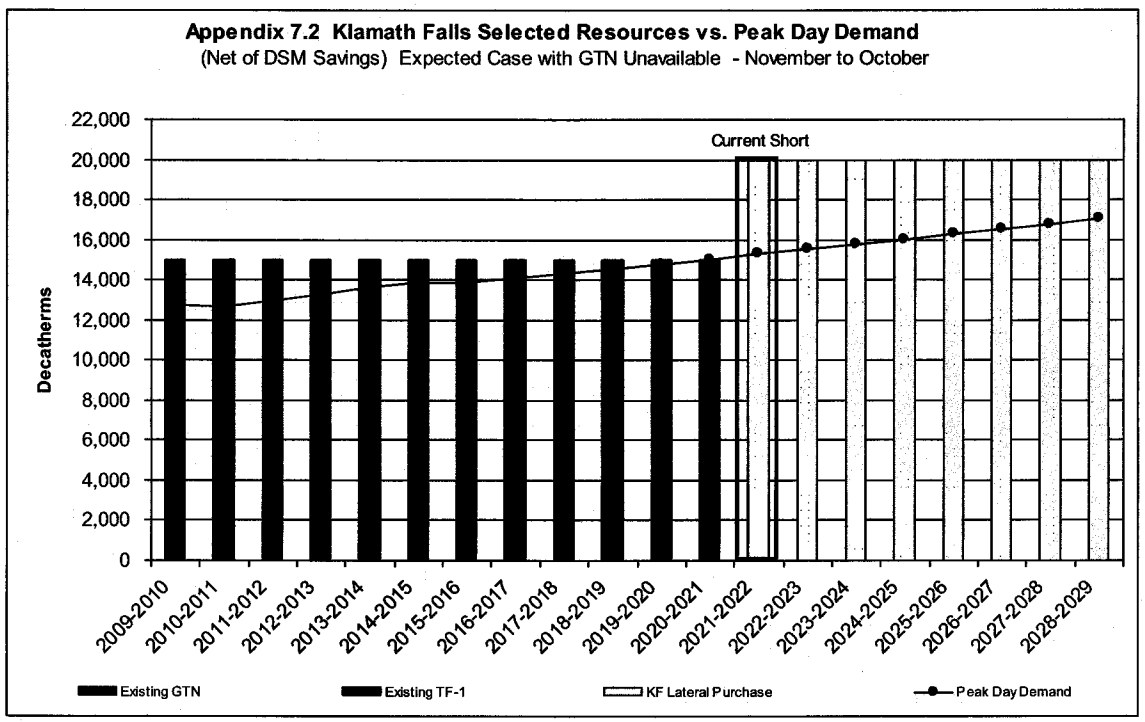

Appendix 7.2 Medford/Roseburg Selected Resources vs. Peak Day Demand
(Net of DSM Savings) Expected Case with GTN Rate Double - November to October
Decatherms
120,000
100,000
80,000
60,000
40,000
20,000
0
Current Short
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
2018-2019
2019-2020
2020-2021
2021-2022
2022-2023
2023-2024
2024-2025
2025-2026
2026-2027
2027-2028
2028-2029
Existing GTN
Existing TF-1
Existing TF-2
Add'l GTN
Peak Day Demand

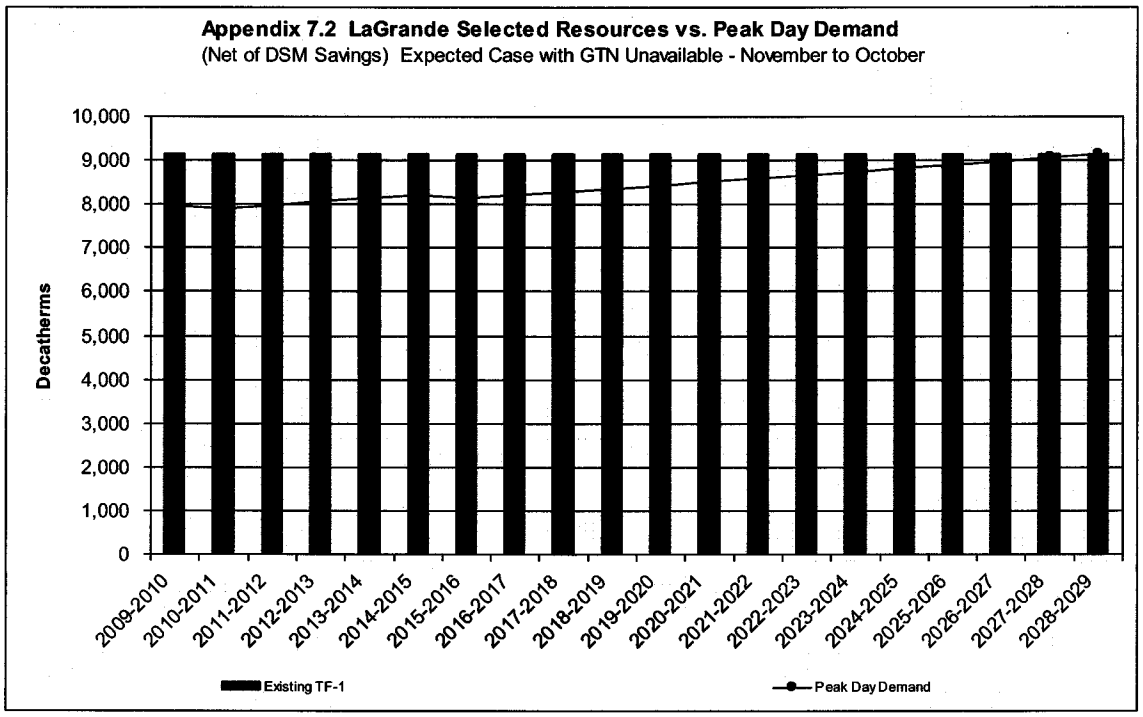

Appendix 7.2 Klamath Falls Selected Resources vs. Peak Day Demand
(Net of DSM Savings) Expected Case with GTN Rate Double - November to October
Decatherms
22,000
20,000
18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
Current Short
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
2018-2019
2019-2020
2020-2021
2021-2022
2022-2023
2023-2024
2024-2025
2025-2026
2026-2027
2027-2028
2028-2029
Existing GTN
Existing TF-1
KF Lateral Purchase
Peak Day Demand


Appendix 7.2 LaGrande Selected Resources vs. Peak Day Demand
(Net of DSM Savings) Expected Case with GTN Rate Double - November to October
Decatherms
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
2018-2019
2019-2020
2020-2021
2021-2022
2022-2023
2023-2024
2024-2025
2025-2026
2026-2027
2027-2028
2028-2029
Existing TF-1
Peak Day Demand


Appendix 7.2 WA/ID Selected Resources vs. Peak Day Demand
(Net of DSM Savings) Expected Case with GTN Unavailable - November to October
Current Short
Decatherms
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
0
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
2018-2019
2019-2020
2020-2021
2021-2022
2022-2023
2023-2024
2024-2025
2025-2026
2026-2027
2027-2028
2028-2029
Existing GTN
Existing TF-1
Existing TF-2
Spokane Supply
Sat LNG
Peak Day Demand


Appendix 7.2 Medford/Roseburg Selected Resources vs. Peak Day Demand
(Net of DSM Savings) Expected Case with GTN Unavailable - November to October
Current Short
Decatherms
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
2018-2019
2019-2020
2020-2021
2021-2022
2022-2023
2023-2024
2024-2025
2025-2026
2026-2027
2027-2028
2028-2029
Existing GTN
Existing TF-1
Existing TF-2
NWP Expansion
Peak Day Demand


Appendix 7.2 Klamath Falls Selected Resources vs. Peak Day Demand
(Net of DSM Savings) Expected Case with GTN Unavailable - November to October
Decatherms
22,000
20,000
18,000
16,000
14,000
12,000
10,000
8,000
6,000
4,000
2,000
0
Current Short
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
2018-2019
2019-2020
2020-2021
2021-2022
2022-2023
2023-2024
2024-2025
2025-2026
2026-2027
2027-2028
2028-2029
Existing GTN
Existing TF-1
KF Lateral Purchase
Peak Day Demand


Appendix 7.2 LaGrande Selected Resources vs. Peak Day Demand
(Net of DSM Savings) Expected Case with GTN Unavailable - November to October
Decatherms
10,000
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
2009-2010
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
2018-2019
2019-2020
2020-2021
2021-2022
2022-2023
2023-2024
2024-2025
2025-2026
2026-2027
2027-2028
2028-2029
Existing TF-1
Peak Day Demand

APPENDIX 7.3

PEAK DAY DEMAND SERVED AND UNSERVED TABLES

Appendix 7.3 - Peak Day Demand - Served and Unserved (MDth/d)

Before Resource Additions & Net of DSM Savings

Case	Gas Year	La Grande Served	La Grande Unserved	La Grande Total	WA/ID Served	WA/ID Unserved	WA/ID Total
High Demand	2009-2010	7.88	-	7.88	279.38		279.38
High Demand	2010-2011	7.84	-	7.84	279.90		279.90
High Demand	2011-2012	7.99	-	7.99	287.30		287.30
High Demand	2012-2013	8.13	-	8.13	294.96		294.96
High Demand	2013-2014	8.26	-	8.26	302.75		302.75
High Demand	2014-2015	8.38	-	8.38	310.54		310.54
High Demand	2015-2016	8.48	-	8.48	314.67	2.17	316.84
High Demand	2016-2017	8.60	-	8.60	314.54	10.01	324.56
High Demand	2017-2018	8.73	-	8.73	314.42	18.13	332.55
High Demand	2018-2019	8.85	-	8.85	314.30	26.26	340.56
High Demand	2019-2020	8.97	-	8.97	314.17	34.79	348.96
High Demand	2020-2021	9.09	-	9.09	314.05	43.54	357.58
High Demand	2021-2022	9.14	0.08	9.22	314.04	52.27	366.31
High Demand	2022-2023	9.14	0.21	9.35	314.04	61.13	375.17
High Demand	2023-2024	9.14	0.33	9.47	314.04	69.98	384.02
High Demand	2024-2025	9.14	0.46	9.60	314.04	79.04	393.08
High Demand	2025-2026	9.14	0.59	9.73	314.04	88.09	402.13
High Demand	2026-2027	9.14	0.72	9.86	314.04	97.03	411.07
High Demand	2027-2028	9.14	0.85	9.99	314.04	106.68	420.72
High Demand	2028-2029	9.14	0.99	10.13	314.04	116.04	430.08

Case	Gas Year	Klamath Falls Served	Klamath Falls Unserved	Klamath Falls Total	Medford/ Roseburg Served	Medford/ Roseburg Unserved	Medford/ Roseburg Total
High Demand	2009-2010	12.58	-	12.58	70.11	-	70.11
High Demand	2010-2011	12.67	-	12.67	70.34	-	70.34
High Demand	2011-2012	13.10	-	13.10	72.20	-	72.20
High Demand	2012-2013	13.61	-	13.61	75.56	-	75.56
High Demand	2013-2014	14.16	-	14.16	78.80	-	78.80
High Demand	2014-2015	14.54	-	14.54	82.16	-	82.16
High Demand	2015-2016	14.85	-	14.85	84.09	1.32	85.40
High Demand	2016-2017	15.03	0.20	15.23	84.09	4.76	88.84
High Demand	2017-2018	15.03	0.58	15.61	84.09	8.06	92.14
High Demand	2018-2019	15.03	0.96	15.99	84.08	11.19	95.27
High Demand	2019-2020	15.03	1.34	16.37	84.09	14.18	98.26
High Demand	2020-2021	15.03	1.72	16.75	84.08	17.22	101.30
High Demand	2021-2022	15.03	2.10	17.13	69.30	35.02	104.32
High Demand	2022-2023	15.03	2.48	17.51	69.30	38.05	107.35
High Demand	2023-2024	15.03	2.88	17.91	69.30	41.11	110.41
High Demand	2024-2025	15.03	3.27	18.30	69.30	44.20	113.50
High Demand	2025-2026	15.03	3.66	18.69	69.30	47.13	116.43
High Demand	2026-2027	15.03	4.05	19.08	69.30	49.96	119.25
High Demand	2027-2028	15.03	4.44	19.47	69.30	52.77	122.07
High Demand	2028-2029	15.03	4.84	19.87	69.30	55.59	124.89

Appendix 7.3 - Peak Day Demand - Served and Unserved (MDth/d)

Before Resource Additions & Net of DSM Savings

Case	Gas Year	La Grande Served	La Grande Unserved	La Grande Total	WA/ID Served	WA/ID Unserved	WA/ID Total
Low Demand	2009-2010	7.86	-	7.86	274.71	-	274.71
Low Demand	2010-2011	7.87	-	7.87	274.09	-	274.09
Low Demand	2011-2012	7.57	-	7.57	262.54	-	262.54
Low Demand	2012-2013	7.24	-	7.24	249.61	-	249.61
Low Demand	2013-2014	7.23	-	7.23	248.40	-	248.40
Low Demand	2014-2015	7.25	-	7.25	248.48	-	248.48
Low Demand	2015-2016	7.20	-	7.20	245.56	-	245.56
Low Demand	2016-2017	7.21	-	7.21	244.96	-	244.96
Low Demand	2017-2018	7.23	-	7.23	244.81	-	244.81
Low Demand	2018-2019	7.23	-	7.23	244.16	-	244.16
Low Demand	2019-2020	7.25	-	7.25	244.15	-	244.15
Low Demand	2020-2021	7.26	-	7.26	244.22	-	244.22
Low Demand	2021-2022	7.28	-	7.28	244.38	-	244.38
Low Demand	2022-2023	7.30	-	7.30	244.68	-	244.68
Low Demand	2023-2024	7.32	-	7.32	244.86	-	244.86
Low Demand	2024-2025	7.35	-	7.35	245.06	-	245.06
Low Demand	2025-2026	7.37	-	7.37	245.29	-	245.29
Low Demand	2026-2027	7.39	-	7.39	245.23	-	245.23
Low Demand	2027-2028	7.40	-	7.40	245.85	-	245.85
Low Demand	2028-2029	7.42	-	7.42	246.38	-	246.38

Case	Gas Year	Klamath Falls Served	Klamath Falls Unserved	Klamath Falls Total	Medford/ Roseburg Served	Medford/ Roseburg Unserved	Medford/ Roseburg Total
Low Demand	2009-2010	12.58	-	12.58	70.10	-	70.10
Low Demand	2010-2011	12.64	-	12.64	70.38	-	70.38
Low Demand	2011-2012	12.22	-	12.22	67.93	-	67.93
Low Demand	2012-2013	11.78	-	11.78	65.62	-	65.62
Low Demand	2013-2014	11.70	-	11.70	65.29	-	65.29
Low Demand	2014-2015	11.78	-	11.78	66.17	-	66.17
Low Demand	2015-2016	11.73	-	11.73	66.53	-	66.53
Low Demand	2016-2017	11.78	-	11.78	67.31	-	67.31
Low Demand	2017-2018	11.85	-	11.85	68.13	-	68.13
Low Demand	2018-2019	11.90	-	11.90	68.79	-	68.79
Low Demand	2019-2020	11.97	-	11.97	69.51	-	69.51
Low Demand	2020-2021	12.05	-	12.05	70.24	-	70.24
Low Demand	2021-2022	12.12	-	12.12	70.98	-	70.98
Low Demand	2022-2023	12.20	-	12.20	71.75	-	71.75
Low Demand	2023-2024	12.29	-	12.29	72.53	-	72.53
Low Demand	2024-2025	12.37	-	12.37	73.30	-	73.30
Low Demand	2025-2026	12.45	-	12.45	74.04	-	74.04
Low Demand	2026-2027	12.53	-	12.53	74.70	-	74.70
Low Demand	2027-2028	12.60	-	12.60	75.34	-	75.34
Low Demand	2028-2029	12.67	-	12.67	75.98	-	75.98

Appendix 7.3 - Peak Day Demand - Served and Unserved (MDth/d)

Before Resource Additions & Net of DSM Savings

Case	Gas Year	La Grande Served	La Grande Unserved	La Grande Total	WA/ID Served	WA/ID Unserved	WA/ID Total
Green Future	2009-2010	7.98	-	7.98	274.58	-	274.58
Green Future	2010-2011	7.61	-	7.61	262.02	-	262.02
Green Future	2011-2012	7.63	-	7.63	263.10	-	263.10
Green Future	2012-2013	7.65	-	7.65	264.29	-	264.29
Green Future	2013-2014	7.68	-	7.68	266.50	-	266.50
Green Future	2014-2015	7.75	-	7.75	270.09	-	270.09
Green Future	2015-2016	7.20	-	7.20	250.52	-	250.52
Green Future	2016-2017	7.17	-	7.17	250.10	-	250.10
Green Future	2017-2018	7.16	-	7.16	250.66	-	250.66
Green Future	2018-2019	7.16	-	7.16	251.45	-	251.45
Green Future	2019-2020	7.17	-	7.17	252.68	-	252.68
Green Future	2020-2021	7.21	-	7.21	255.03	-	255.03
Green Future	2021-2022	7.25	-	7.25	257.70	-	257.70
Green Future	2022-2023	7.29	-	7.29	260.38	-	260.38
Green Future	2023-2024	7.33	-	7.33	262.62	-	262.62
Green Future	2024-2025	7.39	-	7.39	265.80	-	265.80
Green Future	2025-2026	7.43	-	7.43	268.16	-	268.16
Green Future	2026-2027	7.46	-	7.46	270.28	-	270.28
Green Future	2027-2028	7.49	-	7.49	272.85	-	272.85
Green Future	2028-2029	7.52	-	7.52	275.44	-	275.44

Case	Gas Year	Klamath Falls Served	Klamath Falls Unserved	Klamath Falls Total	Medford/ Roseburg Served	Medford/ Roseburg Unserved	Medford/ Roseburg Total
Green Future	2009-2010	12.71	-	12.71	70.44	-	70.44
Green Future	2010-2011	12.23	-	12.23	67.58	-	67.58
Green Future	2011-2012	12.38	-	12.38	68.10	-	68.10
Green Future	2012-2013	12.58	-	12.58	69.59	-	69.59
Green Future	2013-2014	12.85	-	12.85	71.22	-	71.22
Green Future	2014-2015	13.08	-	13.08	73.27	-	73.27
Green Future	2015-2016	12.26	-	12.26	69.54	-	69.54
Green Future	2016-2017	12.32	-	12.32	70.59	-	70.59
Green Future	2017-2018	12.40	-	12.40	71.75	-	71.75
Green Future	2018-2019	12.50	-	12.50	72.88	-	72.88
Green Future	2019-2020	12.61	-	12.61	73.98	-	73.98
Green Future	2020-2021	12.77	-	12.77	75.36	-	75.36
Green Future	2021-2022	12.93	-	12.93	76.79	-	76.79
Green Future	2022-2023	13.10	-	13.10	78.22	-	78.22
Green Future	2023-2024	13.25	-	13.25	79.57	-	79.57
Green Future	2024-2025	13.45	-	13.45	81.14	-	81.14
Green Future	2025-2026	13.60	-	13.60	82.42	-	82.42
Green Future	2026-2027	13.75	-	13.75	83.59	-	83.59
Green Future	2027-2028	13.89	-	13.89	84.09	0.61	84.69
Green Future	2028-2029	14.04	-	14.04	84.08	1.75	85.84

Appendix 7.3 - Peak Day Demand - Served and Unserved (MDth/d)

Before Resource Additions & Net of DSM Savings

Case	Gas Year	La Grande Served	La Grande Unserved	La Grande Total	WA/ID Served	WA/ID Unserved	WA/ID Total
Alt Weather Std	2009-2010	7.98	-	7.98	252.68	-	252.68
Alt Weather Std	2010-2011	7.86	-	7.86	249.43	-	249.43
Alt Weather Std	2011-2012	7.95	-	7.95	252.87	-	252.87
Alt Weather Std	2012-2013	8.05	-	8.05	256.46	-	256.46
Alt Weather Std	2013-2014	8.12	-	8.12	260.13	-	260.13
Alt Weather Std	2014-2015	8.20	-	8.20	263.80	-	263.80
Alt Weather Std	2015-2016	8.12	-	8.12	262.17	-	262.17
Alt Weather Std	2016-2017	8.19	-	8.19	265.71	-	265.71
Alt Weather Std	2017-2018	8.26	-	8.26	269.41	-	269.41
Alt Weather Std	2018-2019	8.34	-	8.34	273.12	-	273.12
Alt Weather Std	2019-2020	8.41	-	8.41	277.06	-	277.06
Alt Weather Std	2020-2021	8.48	-	8.48	281.15	-	281.15
Alt Weather Std	2021-2022	8.56	-	8.56	285.32	-	285.32
Alt Weather Std	2022-2023	8.63	-	8.63	289.56	-	289.56
Alt Weather Std	2023-2024	8.71	-	8.71	293.79	-	293.79
Alt Weather Std	2024-2025	8.79	-	8.79	298.16	-	298.16
Alt Weather Std	2025-2026	8.87	-	8.87	302.52	-	302.52
Alt Weather Std	2026-2027	8.95	-	8.95	306.82	-	306.82
Alt Weather Std	2027-2028	9.03	-	9.03	311.77	-	311.77
Alt Weather Std	2028-2029	9.11	-	9.11	313.86	2.69	316.55

Case	Gas Year	Klamath Falls Served	Klamath Falls Unserved	Klamath Falls Total	Medford/ Roseburg Served	Medford/ Roseburg Unserved	Medford/ Roseburg Total
Alt Weather Std	2009-2010	12.71	-	12.71	67.86	-	67.86
Alt Weather Std	2010-2011	12.63	-	12.63	67.27	-	67.27
Alt Weather Std	2011-2012	12.90	-	12.90	68.40	-	68.40
Alt Weather Std	2012-2013	13.23	-	13.23	70.51	-	70.51
Alt Weather Std	2013-2014	13.58	-	13.58	72.53	-	72.53
Alt Weather Std	2014-2015	13.82	-	13.82	74.64	-	74.64
Alt Weather Std	2015-2016	13.80	-	13.80	75.43	-	75.43
Alt Weather Std	2016-2017	14.04	-	14.04	77.55	-	77.55
Alt Weather Std	2017-2018	14.27	-	14.27	79.58	-	79.58
Alt Weather Std	2018-2019	14.51	-	14.51	81.51	-	81.51
Alt Weather Std	2019-2020	14.75	-	14.75	83.35	-	83.35
Alt Weather Std	2020-2021	14.98	-	14.98	84.09	1.13	85.22
Alt Weather Std	2021-2022	15.03	0.19	15.22	84.09	2.99	87.07
Alt Weather Std	2022-2023	15.03	0.43	15.46	84.08	4.86	88.94
Alt Weather Std	2023-2024	15.03	0.68	15.71	84.09	6.75	90.84
Alt Weather Std	2024-2025	15.03	0.92	15.95	84.09	8.67	92.76
Alt Weather Std	2025-2026	15.03	1.17	16.20	84.09	10.49	94.57
Alt Weather Std	2026-2027	15.03	1.42	16.45	84.09	12.23	96.32
Alt Weather Std	2027-2028	15.03	1.67	16.70	84.09	13.98	98.06
Alt Weather Std	2028-2029	15.03	1.92	16.95	84.09	15.72	99.81

Appendix 7.3 - Peak Day Demand - Served and Unserved (MDth/d)

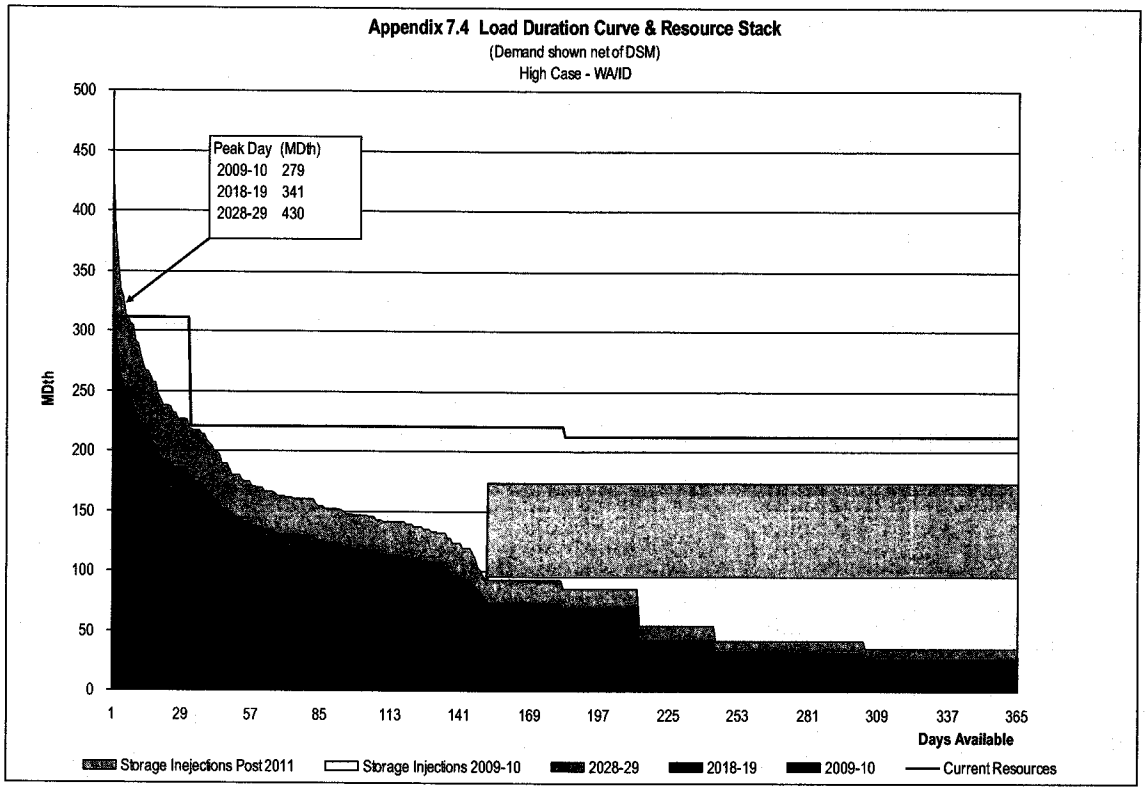
Before Resource Additions & Net of DSM Savings

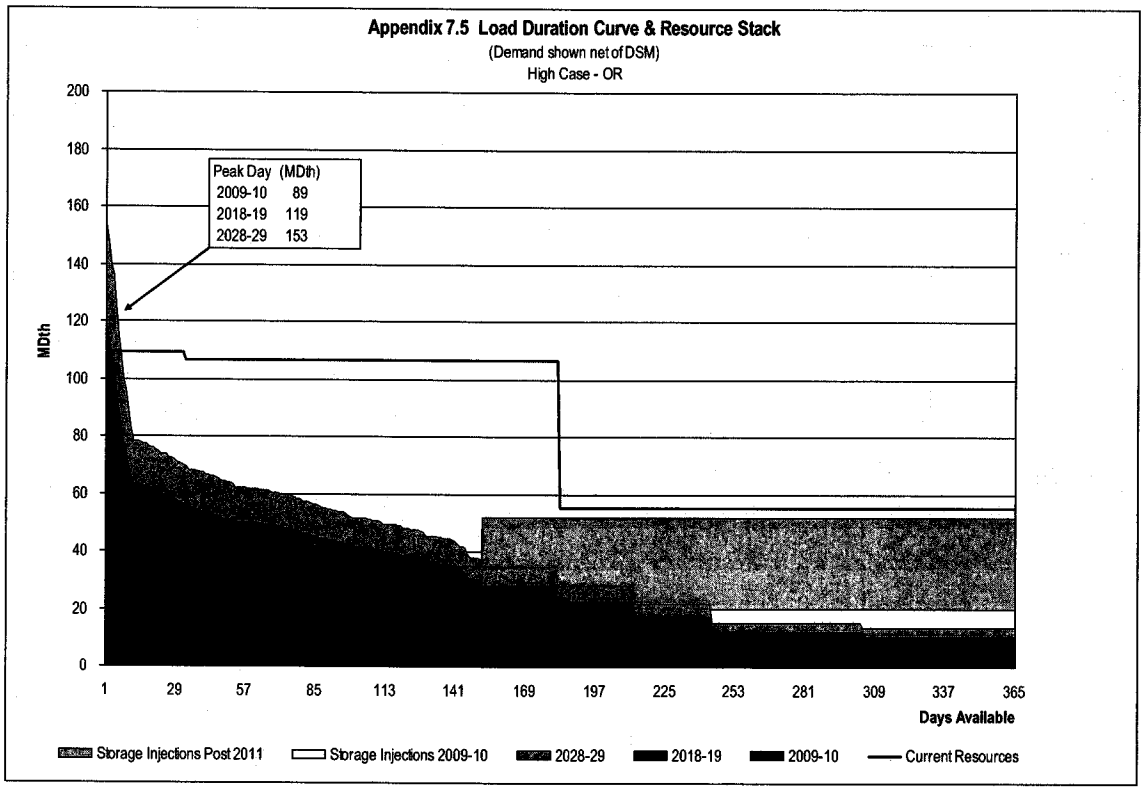
Case	Gas Year	La Grande Served	La Grande Unserved	La Grande Total	WA/ID Served	WA/ID Unserved	WA/ID Total
Supply Constrained	2009-2010	7.98	-	7.98	274.58	-	274.58
Supply Constrained	2010-2011	7.27	-	7.27	249.94	-	249.94
Supply Constrained	2011-2012	7.23	-	7.23	249.06	-	249.06
Supply Constrained	2012-2013	7.22	-	7.22	249.09	-	249.09
Supply Constrained	2013-2014	7.20	-	7.20	249.29	-	249.29
Supply Constrained	2014-2015	7.27	-	7.27	252.45	-	252.45
Supply Constrained	2015-2016	7.11	-	7.11	247.26	-	247.26
Supply Constrained	2016-2017	7.12	-	7.12	248.16	-	248.16
Supply Constrained	2017-2018	7.14	-	7.14	249.64	-	249.64
Supply Constrained	2018-2019	7.13	-	7.13	250.06	-	250.06
Supply Constrained	2019-2020	7.16	-	7.16	252.10	-	252.10
Supply Constrained	2020-2021	7.19	-	7.19	254.37	-	254.37
Supply Constrained	2021-2022	7.22	-	7.22	256.44	-	256.44
Supply Constrained	2022-2023	7.25	-	7.25	258.73	-	258.73
Supply Constrained	2023-2024	7.30	-	7.30	261.18	-	261.18
Supply Constrained	2024-2025	7.35	-	7.35	264.25	-	264.25
Supply Constrained	2025-2026	7.39	-	7.39	266.74	-	266.74
Supply Constrained	2026-2027	7.42	-	7.42	268.46	-	268.46
Supply Constrained	2027-2028	7.44	-	7.44	270.80	-	270.80
Supply Constrained	2028-2029	7.46	-	7.46	272.93	-	272.93

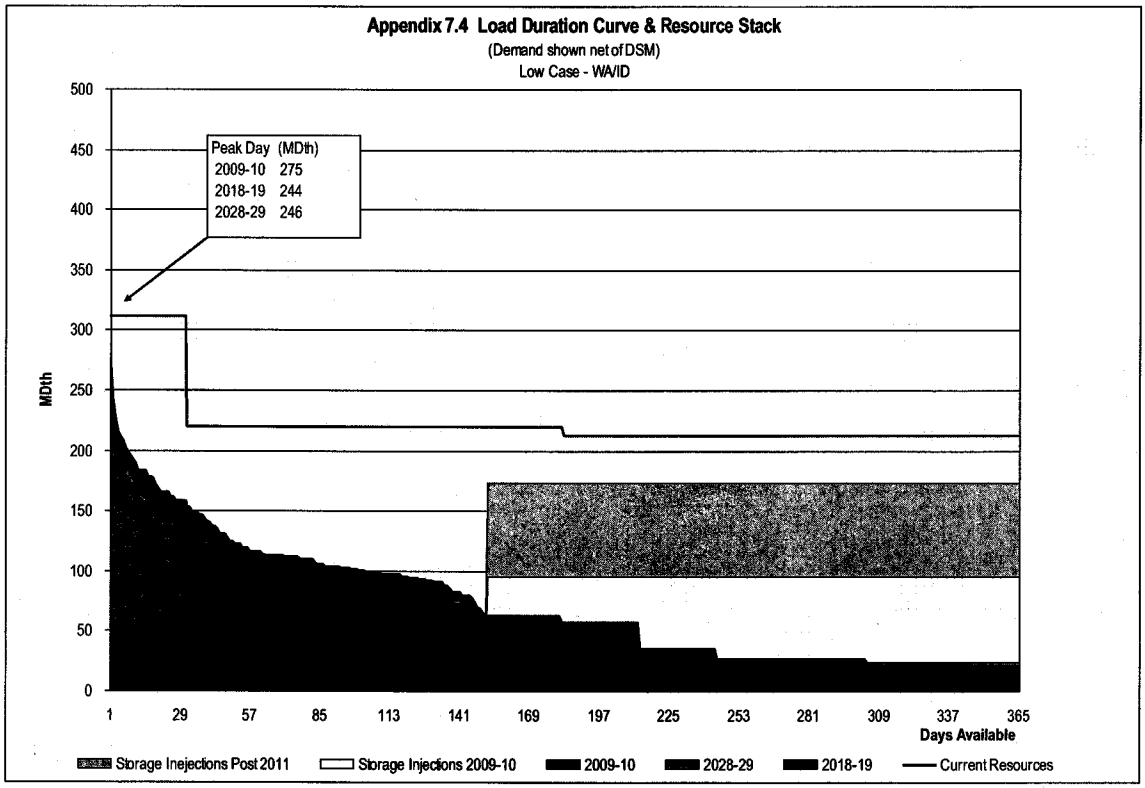
Case	Gas Year	Klamath Falls Served	Klamath Falls Unserved	Klamath Falls Total	Medford/ Roseburg Served	Medford/ Roseburg Unserved	Medford/ Roseburg Total
Supply Constrained	2009-2010	12.71	-	12.71	70.44	-	70.44
Supply Constrained	2010-2011	11.68	-	11.68	64.58	-	64.58
Supply Constrained	2011-2012	11.75	-	11.75	64.63	-	64.63
Supply Constrained	2012-2013	11.90	-	11.90	65.80	-	65.80
Supply Constrained	2013-2014	12.07	-	12.07	66.90	-	66.90
Supply Constrained	2014-2015	12.28	-	12.28	68.82	-	68.82
Supply Constrained	2015-2016	12.12	-	12.12	68.71	-	68.71
Supply Constrained	2016-2017	12.23	-	12.23	70.09	-	70.09
Supply Constrained	2017-2018	12.36	-	12.36	71.49	-	71.49
Supply Constrained	2018-2019	12.44	-	12.44	72.52	-	72.52
Supply Constrained	2019-2020	12.59	-	12.59	73.83	-	73.83
Supply Constrained	2020-2021	12.74	-	12.74	75.18	-	75.18
Supply Constrained	2021-2022	12.88	-	12.88	76.47	-	76.47
Supply Constrained	2022-2023	13.03	-	13.03	77.79	-	77.79
Supply Constrained	2023-2024	13.19	-	13.19	79.19	-	79.19
Supply Constrained	2024-2025	13.38	-	13.38	80.74	-	80.74
Supply Constrained	2025-2026	13.54	-	13.54	82.05	-	82.05
Supply Constrained	2026-2027	13.67	-	13.67	83.12	-	83.12
Supply Constrained	2027-2028	13.80	-	13.80	84.09	0.08	84.16
Supply Constrained	2028-2029	13.93	-	13.93	84.09	1.11	85.19

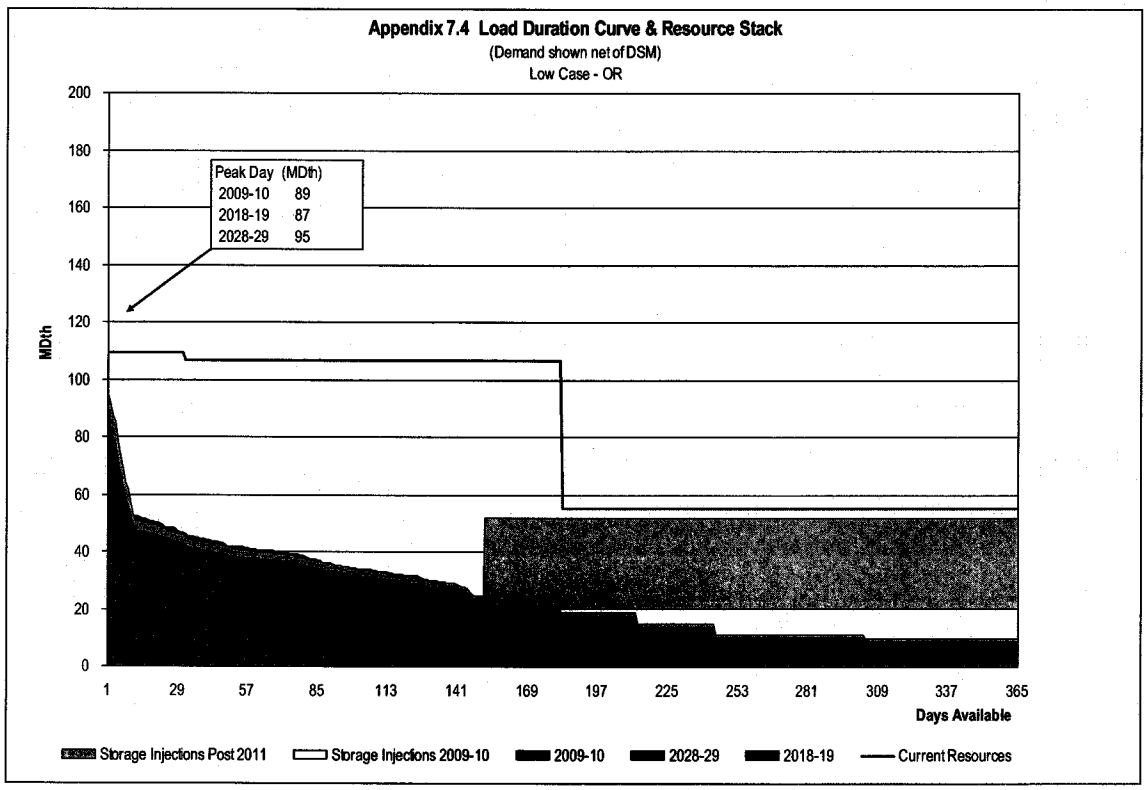
APPENDIX 7.4

LOAD DURATION CURVE GRAPHS (HIGH AND LOW GROWTH CASES)


Appendix 7.4 Load Duration Curve & Resource Stack
(Demand shown net of DSM)
High Case - WA/ID
Peak Day (MDth)
2009-10 279
2018-19 341
2028-29 430
MDth
500
450
400
350
300
250
200
150
100
50
0
1
29
57
85
113
141
169
197
225
253
281
309
337
365
Days Available
Storage Inejections Post 2011
Storage Injections 2009-10
2028-29
2018-19
2009-10
Current Resources


Appendix 7.5 Load Duration Curve & Resource Stack
(Demand shown net of DSM)
High Case - OR
Peak Day (MDth)
2009-10 89
2018-19 119
2028-29 153
MDth
200
180
160
140
120
100
80
60
40
20
0
1
29
57
85
113
141
169
197
225
253
281
309
337
365
Days Available
Storage Injections Post 2011
Storage Injections 2009-10
2028-29
2018-19
2009-10
Current Resources


Appendix 7.4 Load Duration Curve & Resource Stack
(Demand shown net of DSM)
Low Case - WA/ID
Peak Day (MDth)
2009-10 275
2018-19 244
2028-29 246
MDth
Days Available
Storage Inejections Post 2011
Storage Injections 2009-10
2009-10
2028-29
2018-19
Current Resources


Appendix 7.4 Load Duration Curve & Resource Stack
(Demand shown net of DSM)
Low Case - OR
Peak Day (MDth)
2009-10 89
2018-19 87
2028-29 95
MDth
Days Available
Storage Injections Post 2011
Storage Injections 2009-10
2009-10
2028-29
2018-19
Current Resources

APPENDIX 7.5

TOTAL COST BY PORTFOLIO

Appendix 7.5 - Net Present Value of Revenue Requirement (NPVRR) by Portfolio

Portfolio		NPVRR in (000's)
Expected Case		
Expected Demand with Existing Resources (before resource additions)	$	(6,514,895)
Expected Demand with Existing Resources plus Expected Available	$	(6,547,705)
Expected Demand with GTN Fully Subscribed	$	(6,593,845)
Expected Demand with GTN Rate Escalation	$	(7,440,510)
Additional Demand Scenarios		
Expected Demand with High Elasticity and Existing Resources	$	(5,856,847)
Expected Demand with Expected Elasticity and Existing Resources	$	(6,249,435)
Coldest in 20 Demand with Existing Resources	$	(7,997,147)
High Growth & Low Price Demand with Existing Resources	$	(7,691,204)
High Growth & Low Price Demand with Existing Resource plus Expected Available	$	(10,704,833)
Green Future with Exisiting Resources	$	(9,277,241)
Low Growth & High Prices with Restricted Capacity	$	(10,814,967)
Supply Constrained with Existing Resources	$	(11,782,862)

Appendix 7.5 - Served Demand And Costs by Portfolio by Gas Year

Portfolio		2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Expected Demand with Existing Resources												
	Total Served w/o Enduser (MDth)	35,099	34,796	34,998	35,334	35,790	36,277	36,130	36,450	36,831	37,227	37,756
	Total System Cost (000's)	$ (195,180)	$ (232,351)	$ (222,775)	$ (230,341)	$ (213,825)	$ (272,971)	$ (293,852)	$ (306,592)	$ (311,644)	$ (321,129)	$ (337,014)
	Total Transport Fix Cost (000's)	$ (40,789)	$ (40,977)	$ (41,169)	$ (44,089)	$ (47,298)	$ (50,816)	$ (54,686)	$ (58,934)	$ (63,330)	$ (68,140)	$ (73,404)
	Total Transport Var Cost (000's)	$ (589)	$ (640)	$ (651)	$ (736)	$ (759)	$ (754)	$ (708)	$ (720)	$ (732)	$ (718)	$ (723)
	Total Supply Fixed Costs by Supply (000's)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total Supply Variable Costs by Supply (000's)	$ (153,076)	$ (190,277)	$ (180,474)	$ (185,030)	$ (165,286)	$ (220,899)	$ (237,932)	$ (246,405)	$ (247,044)	$ (251,725)	$ (262,329)
	Total Storage Fix Cost (000's)	$ (348)	$ (35)	$ (35)	$ (38)	$ (42)	$ (47)	$ (51)	$ (57)	$ (62)	$ (69)	$ (75)
	Total Storage Var Cost (000's)	$ (60)	$ (94)	$ (118)	$ (119)	$ (110)	$ (127)	$ (144)	$ (147)	$ (147)	$ (149)	$ (153)
	DSM Implementation Cost (000's)	$ (319.07)	$ (329.11)	$ (329.11)	$ (329.11)	$ (329.11)	$ (329.11)	$ (329.11)	$ (329.11)	$ (329.11)	$ (329.11)	$ (329.11)
Expected Demand with Existing Resources plus Expected Available												
	Total Served w/o Enduser (MDth)	35,099	34,796	34,998	35,334	35,790	36,277	36,130	36,450	36,831	37,227	37,756
	Total System Cost (000's)	$ (195,795)	$ (233,059)	$ (223,372)	$ (230,968)	$ (214,440)	$ (273,579)	$ (294,467)	$ (307,232)	$ (312,274)	$ (321,802)	$ (337,719)
	Total Transport Fix Cost (000's)	$ (42,194)	$ (42,541)	$ (42,631)	$ (45,581)	$ (48,820)	$ (52,367)	$ (56,267)	$ (60,543)	$ (64,969)	$ (69,810)	$ (75,106)
	Total Transport Var Cost (000's)	$ (616)	$ (665)	$ (672)	$ (790)	$ (795)	$ (798)	$ (779)	$ (784)	$ (784)	$ (789)	$ (790)
	Total Supply Fixed Costs by Supply (000's)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total Supply Variable Costs by Supply (000's)	$ (152,257)	$ (189,396)	$ (179,589)	$ (184,112)	$ (164,345)	$ (219,913)	$ (236,900)	$ (245,377)	$ (245,985)	$ (250,660)	$ (261,270)
	Total Storage Fix Cost (000's)	$ (348)	$ (35)	$ (35)	$ (38)	$ (42)	$ (47)	$ (51)	$ (57)	$ (62)	$ (69)	$ (75)
	Total Storage Var Cost (000's)	$ (60)	$ (94)	$ (115)	$ (118)	$ (109)	$ (126)	$ (141)	$ (143)	$ (144)	$ (145)	$ (150)
	DSM Implementation Cost (000's)	$ (319)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)
Expected Demand with GTN Rate Escalation												
	Total Served w/o Enduser (MDth)	35,099	34,796	34,998	35,334	35,790	36,277	36,130	36,450	36,831	37,227	37,756
	Total System Cost (000's)	$ (214,803)	$ (252,096)	$ (242,437)	$ (251,905)	$ (237,444)	$ (298,861)	$ (322,263)	$ (337,801)	$ (345,708)	$ (358,380)	$ (377,747)
	Total Transport Fix Cost (000's)	$ (61,203)	$ (61,577)	$ (61,697)	$ (66,518)	$ (71,823)	$ (77,648)	$ (84,062)	$ (91,111)	$ (98,403)	$ (106,388)	$ (115,134)
	Total Transport Var Cost (000's)	$ (616)	$ (665)	$ (672)	$ (790)	$ (795)	$ (798)	$ (779)	$ (784)	$ (784)	$ (789)	$ (790)
	Total Supply Fixed Costs by Supply (000's)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total Supply Variable Costs by Supply (000's)	$ (152,257)	$ (189,396)	$ (179,589)	$ (184,112)	$ (164,345)	$ (219,913)	$ (236,900)	$ (245,377)	$ (245,985)	$ (250,660)	$ (261,270)
	Total Storage Fix Cost (000's)	$ (348)	$ (35)	$ (35)	$ (38)	$ (42)	$ (47)	$ (51)	$ (57)	$ (62)	$ (69)	$ (75)
	Total Storage Var Cost (000's)	$ (60)	$ (94)	$ (115)	$ (118)	$ (109)	$ (126)	$ (141)	$ (143)	$ (144)	$ (145)	$ (150)
	DSM Implementation Cost (000's)	$ (319)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)
Expected Demand with GTN Fully Subscribed												
	Total Served w/o Enduser (MDth)	35,099	34,796	34,998	35,334	35,790	36,277	36,130	36,450	36,831	37,227	37,756
	Total System Cost (000's)	$ (195,795)	$ (233,059)	$ (223,372)	$ (230,968)	$ (214,440)	$ (273,604)	$ (294,468)	$ (307,233)	$ (312,275)	$ (321,967)	$ (338,339)
	Total Transport Fix Cost (000's)	$ (42,194)	$ (42,541)	$ (42,631)	$ (45,581)	$ (48,820)	$ (52,367)	$ (56,267)	$ (60,543)	$ (64,969)	$ (69,810)	$ (75,106)
	Total Transport Var Cost (000's)	$ (616)	$ (665)	$ (672)	$ (790)	$ (795)	$ (799)	$ (780)	$ (785)	$ (785)	$ (791)	$ (791)
	Total Supply Fixed Costs by Supply (000's)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (163)	$ (610)
	Total Supply Variable Costs by Supply (000's)	$ (152,257)	$ (189,396)	$ (179,589)	$ (184,112)	$ (164,345)	$ (219,937)	$ (236,900)	$ (245,377)	$ (245,985)	$ (250,661)	$ (261,278)
	Total Storage Fix Cost (000's)	$ (348)	$ (35)	$ (35)	$ (38)	$ (42)	$ (47)	$ (51)	$ (57)	$ (62)	$ (69)	$ (75)
	Total Storage Var Cost (000's)	$ (60)	$ (94)	$ (115)	$ (118)	$ (109)	$ (126)	$ (141)	$ (143)	$ (144)	$ (145)	$ (150)
	DSM Implementation Cost (000's)	$ (319)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)
Expected Demand with Expected Elasticity and Existing Resources												
	Total Served w/o Enduser (MDth)	35,099	34,251	34,092	34,324	34,760	35,226	34,486	34,608	34,889	35,256	35,693
	Total System Cost (000's)	$ (195,167)	$ (229,524)	$ (217,925)	$ (224,798)	$ (208,810)	$ (268,222)	$ (282,394)	$ (293,366)	$ (297,709)	$ (306,975)	$ (321,789)
	Total Transport Fix Cost (000's)	$ (40,789)	$ (40,977)	$ (41,169)	$ (44,089)	$ (47,298)	$ (50,816)	$ (54,686)	$ (58,934)	$ (63,330)	$ (68,140)	$ (73,404)
	Total Transport Var Cost (000's)	$ (589)	$ (635)	$ (639)	$ (727)	$ (751)	$ (746)	$ (693)	$ (709)	$ (716)	$ (700)	$ (705)
	Total Supply Fixed Costs by Supply (000's)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total Supply Variable Costs by Supply (000's)	$ (153,063)	$ (187,454)	$ (175,635)	$ (179,497)	$ (160,280)	$ (214,156)	$ (226,489)	$ (233,191)	$ (233,124)	$ (237,587)	$ (247,120)
	Total Storage Fix Cost (000's)	$ (348)	$ (35)	$ (35)	$ (38)	$ (42)	$ (47)	$ (51)	$ (57)	$ (62)	$ (69)	$ (75)
	Total Storage Var Cost (000's)	$ (60)	$ (94)	$ (119)	$ (119)	$ (110)	$ (128)	$ (145)	$ (147)	$ (147)	$ (150)	$ (155)
	DSM Implementation Cost (000's)	$ (319)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)
Expected Demand with High Elasticity and Existing Resources												
	Total Served w/o Enduser (MDth)	35,099	32,928	32,595	32,763	33,169	33,603	31,545	31,564	31,775	32,094	32,452
	Total System Cost (000's)	$ (195,265)	$ (222,820)	$ (210,031)	$ (216,358)	$ (201,196)	$ (256,090)	$ (262,188)	$ (271,821)	$ (275,704)	$ (284,633)	$ (298,248)
	Total Transport Fix Cost (000's)	$ (40,789)	$ (40,977)	$ (41,169)	$ (44,089)	$ (47,298)	$ (50,816)	$ (54,686)	$ (58,934)	$ (63,330)	$ (68,140)	$ (73,404)
	Total Transport Var Cost (000's)	$ (620)	$ (632)	$ (637)	$ (716)	$ (735)	$ (729)	$ (668)	$ (693)	$ (692)	$ (674)	$ (677)
	Total Supply Fixed Costs by Supply (000's)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total Supply Variable Costs by Supply (000's)	$ (153,131)	$ (180,753)	$ (167,742)	$ (171,066)	$ (152,682)	$ (204,040)	$ (206,304)	$ (211,661)	$ (211,142)	$ (215,268)	$ (223,604)
	Total Storage Fix Cost (000's)	$ (348)	$ (35)	$ (35)	$ (38)	$ (42)	$ (47)	$ (51)	$ (57)	$ (62)	$ (69)	$ (75)
	Total Storage Var Cost (000's)	$ (59)	$ (94)	$ (120)	$ (119)	$ (111)	$ (129)	$ (149)	$ (147)	$ (148)	$ (153)	$ (158)
	DSM Implementation Cost (000's)	$ (319)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)
Coldest in 20 Demand with Existing Resources												
	Total Served w/o Enduser (MDth)	34,975	34,599	34,799	35,132	35,584	36,067	35,921	36,237	36,614	37,008	37,533
	Total System Cost (000's)	$ (197,016)	$ (234,592)	$ (225,092)	$ (245,996)	$ (230,474)	$ (298,908)	$ (334,173)	$ (357,326)	$ (387,400)	$ (409,963)	$ (432,415)
	Total Transport Fix Cost (000's)	$ (42,294)	$ (42,512)	$ (42,735)	$ (45,686)	$ (48,928)	$ (52,477)	$ (56,379)	$ (60,657)	$ (65,085)	$ (69,928)	$ (75,227)
	Total Transport Var Cost (000's)	$ (522)	$ (584)	$ (538)	$ (669)	$ (760)	$ (758)	$ (763)	$ (759)	$ (765)	$ (768)	$ (774)
	Total Supply Fixed Costs by Supply (000's)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total Supply Variable Costs by Supply (000's)	$ (153,460)	$ (191,024)	$ (181,322)	$ (199,129)	$ (180,272)	$ (245,138)	$ (276,465)	$ (295,322)	$ (320,938)	$ (338,631)	$ (355,766)
	Total Storage Fix Cost (000's)	$ (348)	$ (35)	$ (35)	$ (38)	$ (42)	$ (47)	$ (51)	$ (57)	$ (62)	$ (69)	$ (75)
	Total Storage Var Cost (000's)	$ (73)	$ (109)	$ (134)	$ (146)	$ (144)	$ (159)	$ (186)	$ (202)	$ (220)	$ (237)	$ (245)
	DSM Implementation Cost (000's)	$ (319)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)

Appendix 7.5 - Served Demand And Costs by Portfolio by Gas Year

Portfolio		2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
High Growth & Low Price Demand with Existing Resources												
	Total Served w/o Enduser (MDth)	35,508	35,593	36,231	37,036	37,961	38,921	39,762	40,520	41,341	42,171	43,150
	Total System Cost (000's)	$ (195,619)	$ (229,414)	$ (241,622)	$ (255,266)	$ (231,315)	$ (294,111)	$ (324,970)	$ (336,505)	$ (364,019)	$ (380,408)	$ (391,690)
	Total Transport Fix Cost (000's)	$ (42,294)	$ (42,512)	$ (42,735)	$ (45,686)	$ (48,928)	$ (52,477)	$ (56,379)	$ (60,657)	$ (65,085)	$ (69,928)	$ (75,227)
	Total Transport Var Cost (000's)	$ (738)	$ (749)	$ (590)	$ (741)	$ (777)	$ (768)	$ (771)	$ (779)	$ (767)	$ (798)	$ (794)
	Total Supply Fixed Costs by Supply (000's)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total Supply Variable Costs by Supply (000's)	$ (151,871)	$ (185,722)	$ (197,821)	$ (208,335)	$ (181,110)	$ (240,346)	$ (267,279)	$ (274,519)	$ (297,599)	$ (309,102)	$ (315,073)
	Total Storage Fix Cost (000's)	$ (348)	$ (35)	$ (35)	$ (38)	$ (42)	$ (47)	$ (51)	$ (57)	$ (62)	$ (69)	$ (75)
	Total Storage Var Cost (000's)	$ (46)	$ (68)	$ (113)	$ (137)	$ (130)	$ (144)	$ (161)	$ (163)	$ (176)	$ (181)	$ (191)
	DSM Implementation Cost (000's)	$ (322)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (330)	$ (330)	$ (330)	$ (330)
High Growth & Low Price Demand with Existing Resource plus Expected Available												
	Total Served w/o Enduser (MDth)	35,449	35,521	36,150	36,938	37,847	38,785	39,786	40,561	41,399	42,251	43,255
	Total System Cost (000's)	$ (191,492)	$ (225,178)	$ (237,400)	$ (249,797)	$ (256,337)	$ (319,762)	$ (430,384)	$ (452,595)	$ (491,499)	$ (520,573)	$ (545,603)
	Total Transport Fix Cost (000's)	$ (38,449)	$ (38,674)	$ (38,903)	$ (41,425)	$ (74,131)	$ (79,492)	$ (162,237)	$ (177,081)	$ (192,879)	$ (210,204)	$ (229,207)
	Total Transport Var Cost (000's)	$ (744)	$ (753)	$ (619)	$ (743)	$ (778)	$ (777)	$ (768)	$ (778)	$ (754)	$ (794)	$ (808)
	Total Supply Fixed Costs by Supply (000's)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total Supply Variable Costs by Supply (000's)	$ (151,576)	$ (185,320)	$ (197,401)	$ (207,126)	$ (180,927)	$ (238,972)	$ (266,834)	$ (274,184)	$ (297,291)	$ (308,995)	$ (314,992)
	Total Storage Fix Cost (000's)	$ (348)	$ (35)	$ (35)	$ (38)	$ (42)	$ (47)	$ (51)	$ (57)	$ (62)	$ (69)	$ (75)
	Total Storage Var Cost (000's)	$ (47)	$ (68)	$ (113)	$ (135)	$ (129)	$ (144)	$ (164)	$ (166)	$ (183)	$ (182)	$ (192)
	DSM Implementation Cost (000's)	$ (328)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)
Low Growth & High Prices with Restricted Capacity												
	Total Served w/o Enduser (MDth)	35,059	34,903	33,553	32,195	32,028	32,039	31,966	31,851	31,795	31,756	31,829
	Total System Cost (000's)	$ (262,308)	$ (330,813)	$ (365,539)	$ (393,186)	$ (389,637)	$ (465,035)	$ (494,181)	$ (507,451)	$ (533,170)	$ (550,229)	$ (564,470)
	Total Transport Fix Cost (000's)	$ (42,294)	$ (42,512)	$ (42,735)	$ (45,686)	$ (48,928)	$ (52,477)	$ (56,379)	$ (60,657)	$ (65,085)	$ (69,928)	$ (75,227)
	Total Transport Var Cost (000's)	$ (735)	$ (747)	$ (542)	$ (644)	$ (683)	$ (624)	$ (648)	$ (616)	$ (585)	$ (612)	$ (589)
	Total Supply Fixed Costs by Supply (000's)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total Supply Variable Costs by Supply (000's)	$ (218,542)	$ (287,072)	$ (321,684)	$ (346,213)	$ (339,368)	$ (411,228)	$ (436,410)	$ (445,414)	$ (466,699)	$ (478,875)	$ (487,806)
	Total Storage Fix Cost (000's)	$ (348)	$ (35)	$ (35)	$ (38)	$ (42)	$ (47)	$ (51)	$ (57)	$ (62)	$ (69)	$ (75)
	Total Storage Var Cost (000's)	$ (60)	$ (119)	$ (214)	$ (275)	$ (286)	$ (330)	$ (365)	$ (377)	$ (408)	$ (415)	$ (444)
	DSM Implementation Cost (000's)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (330)	$ (330)	$ (330)	$ (330)
Green Future with Exisiting Resources												
	Total Served w/o Enduser (MDth)	35,098	33,855	33,819	33,910	34,207	34,662	32,893	32,851	32,947	33,079	33,351
	Total System Cost (000's)	$ (212,850)	$ (244,520)	$ (237,759)	$ (252,961)	$ (235,644)	$ (349,600)	$ (385,287)	$ (414,353)	$ (444,546)	$ (474,253)	$ (495,874)
	Total Transport Fix Cost (000's)	$ (42,294)	$ (42,512)	$ (42,735)	$ (45,686)	$ (48,928)	$ (52,477)	$ (56,379)	$ (60,657)	$ (65,085)	$ (69,928)	$ (75,227)
	Total Transport Var Cost (000's)	$ (546)	$ (603)	$ (541)	$ (661)	$ (758)	$ (758)	$ (748)	$ (749)	$ (753)	$ (741)	$ (744)
	Total Supply Fixed Costs by Supply (000's)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total Supply Variable Costs by Supply (000's)	$ (169,263)	$ (200,927)	$ (193,977)	$ (206,091)	$ (185,429)	$ (295,800)	$ (327,541)	$ (352,291)	$ (378,024)	$ (402,866)	$ (419,178)
	Total Storage Fix Cost (000's)	$ (348)	$ (35)	$ (35)	$ (38)	$ (42)	$ (47)	$ (51)	$ (57)	$ (62)	$ (69)	$ (75)
	Total Storage Var Cost (000's)	$ (77)	$ (115)	$ (143)	$ (155)	$ (158)	$ (188)	$ (239)	$ (271)	$ (293)	$ (320)	$ (320)
	DSM Implementation Cost (000's)	$ (322)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (330)	$ (330)
Supply Constrained with Existing Resources												
	Total Served w/o Enduser (MDth)	35,097	32,890	32,486	32,481	32,597	33,020	32,592	32,673	32,854	32,955	33,299
	Total System Cost (000's)	$ (292,218)	$ (340,956)	$ (338,468)	$ (371,515)	$ (371,164)	$ (456,869)	$ (486,335)	$ (512,956)	$ (552,310)	$ (579,609)	$ (605,036)
	Total Transport Fix Cost (000's)	$ (42,294)	$ (42,512)	$ (42,735)	$ (45,686)	$ (48,928)	$ (52,477)	$ (56,379)	$ (60,657)	$ (65,085)	$ (69,928)	$ (75,227)
	Total Transport Var Cost (000's)	$ (546)	$ (574)	$ (503)	$ (545)	$ (652)	$ (715)	$ (720)	$ (719)	$ (712)	$ (689)	$ (683)
	Total Supply Fixed Costs by Supply (000's)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
	Total Supply Variable Costs by Supply (000's)	$ (248,606)	$ (297,328)	$ (294,624)	$ (324,645)	$ (320,924)	$ (402,991)	$ (428,511)	$ (450,819)	$ (485,715)	$ (508,171)	$ (528,276)
	Total Storage Fix Cost (000's)	$ (348)	$ (35)	$ (35)	$ (38)	$ (42)	$ (47)	$ (51)	$ (57)	$ (62)	$ (69)	$ (75)
	Total Storage Var Cost (000's)	$ (95)	$ (179)	$ (243)	$ (271)	$ (288)	$ (310)	$ (345)	$ (375)	$ (405)	$ (423)	$ (445)
	DSM Implementation Cost (000's)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (329)	$ (330)	$ (330)	$ (330)	$ (330)

Appendix 7.5 - Served Demand And Costs by Portfolio by Gas Year

Portfolio	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029	Total
Expected Demand with Existing Resources										
Total Served w/o Enduser (MDth)	38,274	38,809	39,384	40,005	40,538	41,147	41,708	42,370	42,944	761,869
Total System Cost (000's)	$ (354,042)	$ (365,279)	$ (373,004)	$ (370,477)	$ (381,929)	$ (403,330)	$ (424,301)	$ (441,877)	$ (462,982)	$ (6,514,895)
Total Transport Fix Cost (000's)	$ (79,167)	$ (85,489)	$ (92,623)	$ (100,459)	$ (109,066)	$ (118,523)	$ (128,915)	$ (140,722)	$ (153,754)	$ (1,592,348)
Total Transport Var Cost (000's)	$ (719)	$ (722)	$ (737)	$ (785)	$ (784)	$ (803)	$ (807)	$ (811)	$ (821)	$ (14,719)
Total Supply Fixed Costs by Supply (000's)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (80)	$ (573)	$ (653)
Total Supply Variable Costs by Supply (000's)	$ (273,586)	$ (278,491)	$ (279,070)	$ (268,634)	$ (271,477)	$ (283,393)	$ (293,948)	$ (299,700)	$ (307,748)	$ (4,896,525)
Total Storage Fix Cost (000's)	$ (83)	$ (91)	$ (100)	$ (110)	$ (121)	$ (133)	$ (147)	$ (162)	$ (179)	$ (1,984)
Total Storage Var Cost (000's)	$ (158)	$ (157)	$ (144)	$ (159)	$ (151)	$ (148)	$ (155)	$ (152)	$ (150)	$ (2,741)
DSM Implementation Cost (000's)	$ (329.11)	$ (329.92)	$ (329.92)	$ (329.92)	$ (329.92)	$ (329.92)	$ (329.92)	$ (329.92)	$ (329.92)	$ (6,579)
Expected Demand with Existing Resources plus Expected Available										
Total Served w/o Enduser (MDth)	38,274	38,809	39,384	40,005	40,538	41,147	41,708	42,370	42,944	761,869
Total System Cost (000's)	$ (354,803)	$ (366,102)	$ (373,946)	$ (371,981)	$ (384,151)	$ (406,381)	$ (428,291)	$ (447,174)	$ (470,168)	$ (6,547,705)
Total Transport Fix Cost (000's)	$ (80,901)	$ (87,258)	$ (94,514)	$ (102,867)	$ (112,106)	$ (122,308)	$ (133,568)	$ (146,510)	$ (160,842)	$ (1,641,703)
Total Transport Var Cost (000's)	$ (789)	$ (786)	$ (804)	$ (839)	$ (829)	$ (830)	$ (855)	$ (851)	$ (852)	$ (15,696)
Total Supply Fixed Costs by Supply (000's)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ (80)	$ (573)	$ (653)
Total Supply Variable Costs by Supply (000's)	$ (272,545)	$ (277,484)	$ (278,054)	$ (267,685)	$ (270,622)	$ (282,635)	$ (293,240)	$ (299,093)	$ (307,244)	$ (4,878,406)
Total Storage Fix Cost (000's)	$ (83)	$ (91)	$ (100)	$ (110)	$ (121)	$ (133)	$ (147)	$ (162)	$ (179)	$ (1,984)
Total Storage Var Cost (000's)	$ (155)	$ (155)	$ (145)	$ (151)	$ (144)	$ (144)	$ (152)	$ (148)	$ (148)	$ (2,687)
DSM Implementation Cost (000's)	$ (329)	$ (329)	$ (329)	$ (329)	$ (330)	$ (330)	$ (330)	$ (330)	$ (330)	$ (6,576)
Expected Demand with GTN Rate Escalation										
Total Served w/o Enduser (MDth)	38,274	38,809	39,384	40,005	40,538	41,147	41,708	42,370	42,944	761,869
Total System Cost (000's)	$ (398,614)	$ (414,068)	$ (426,699)	$ (430,389)	$ (448,763)	$ (477,589)	$ (506,588)	$ (533,400)	$ (564,955)	$ (7,440,510)
Total Transport Fix Cost (000's)	$ (124,713)	$ (135,224)	$ (147,267)	$ (161,276)	$ (174,477)	$ (190,236)	$ (207,560)	$ (227,256)	$ (248,998)	$ (2,512,573)
Total Transport Var Cost (000's)	$ (789)	$ (786)	$ (804)	$ (839)	$ (831)	$ (837)	$ (855)	$ (859)	$ (861)	$ (15,722)
Total Supply Fixed Costs by Supply (000's)	$ -	$ -	$ -	$ -	$ (2,189)	$ (3,199)	$ (4,193)	$ (5,418)	$ (7,027)	$ (22,026)
Total Supply Variable Costs by Supply (000's)	$ (272,545)	$ (277,484)	$ (278,054)	$ (267,685)	$ (270,671)	$ (282,710)	$ (293,351)	$ (299,226)	$ (307,411)	$ (4,878,941)
Total Storage Fix Cost (000's)	$ (83)	$ (91)	$ (100)	$ (110)	$ (121)	$ (133)	$ (147)	$ (162)	$ (179)	$ (1,984)
Total Storage Var Cost (000's)	$ (155)	$ (155)	$ (145)	$ (151)	$ (144)	$ (144)	$ (152)	$ (148)	$ (149)	$ (2,687)
DSM Implementation Cost (000's)	$ (329)	$ (329)	$ (329)	$ (329)	$ (330)	$ (330)	$ (330)	$ (330)	$ (330)	$ (6,576)
Expected Demand with GTN Fully Subscribed										
Total Served w/o Enduser (MDth)	38,274	38,809	39,384	40,005	40,538	41,147	41,708	42,370	42,944	761,869
Total System Cost (000's)	$ (355,891)	$ (367,661)	$ (376,084)	$ (375,244)	$ (388,215)	$ (411,249)	$ (435,424)	$ (458,093)	$ (480,464)	$ (6,593,845)
Total Transport Fix Cost (000's)	$ (80,901)	$ (87,258)	$ (94,428)	$ (102,299)	$ (110,943)	$ (120,438)	$ (132,748)	$ (148,383)	$ (161,421)	$ (1,639,648)
Total Transport Var Cost (000's)	$ (792)	$ (787)	$ (806)	$ (839)	$ (831)	$ (837)	$ (858)	$ (863)	$ (865)	$ (15,748)
Total Supply Fixed Costs by Supply (000's)	$ (1,065)	$ (1,517)	$ (2,167)	$ (3,728)	$ (5,087)	$ (6,540)	$ (7,713)	$ (8,858)	$ (9,984)	$ (47,430)
Total Supply Variable Costs by Supply (000's)	$ (272,566)	$ (277,524)	$ (278,109)	$ (267,788)	$ (270,758)	$ (282,827)	$ (293,477)	$ (299,348)	$ (307,537)	$ (4,879,773)
Total Storage Fix Cost (000's)	$ (83)	$ (91)	$ (100)	$ (110)	$ (121)	$ (133)	$ (147)	$ (162)	$ (179)	$ (1,984)
Total Storage Var Cost (000's)	$ (154)	$ (155)	$ (145)	$ (151)	$ (144)	$ (144)	$ (152)	$ (148)	$ (149)	$ (2,686)
DSM Implementation Cost (000's)	$ (329)	$ (329)	$ (329)	$ (329)	$ (330)	$ (330)	$ (330)	$ (330)	$ (330)	$ (6,576)
Expected Demand with Expected Elasticity and Existing Resources										
Total Served w/o Enduser (MDth)	36,072	36,411	36,939	37,512	37,997	38,529	38,940	39,459	39,958	724,501
Total System Cost (000's)	$ (337,259)	$ (346,639)	$ (354,317)	$ (352,494)	$ (364,255)	$ (384,635)	$ (403,933)	$ (420,475)	$ (440,750)	$ (6,249,435)
Total Transport Fix Cost (000's)	$ (79,167)	$ (85,489)	$ (92,623)	$ (100,459)	$ (109,066)	$ (118,523)	$ (128,915)	$ (140,722)	$ (153,754)	$ (1,592,348)
Total Transport Var Cost (000's)	$ (699)	$ (701)	$ (720)	$ (764)	$ (763)	$ (772)	$ (792)	$ (784)	$ (793)	$ (14,398)
Total Supply Fixed Costs by Supply (000's)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Supply Variable Costs by Supply (000's)	$ (256,822)	$ (259,871)	$ (260,399)	$ (250,671)	$ (253,824)	$ (264,728)	$ (273,595)	$ (278,326)	$ (285,545)	$ (4,631,377)
Total Storage Fix Cost (000's)	$ (83)	$ (91)	$ (100)	$ (110)	$ (121)	$ (133)	$ (147)	$ (162)	$ (179)	$ (1,984)
Total Storage Var Cost (000's)	$ (159)	$ (158)	$ (146)	$ (160)	$ (151)	$ (149)	$ (155)	$ (152)	$ (149)	$ (2,751)
DSM Implementation Cost (000's)	$ (329)	$ (329)	$ (329)	$ (329)	$ (330)	$ (330)	$ (330)	$ (330)	$ (330)	$ (6,576)
Expected Demand with High Elasticity and Existing Resources										
Total Served w/o Enduser (MDth)	32,734	32,957	33,420	33,928	34,354	34,813	35,129	35,556	35,991	668,471
Total System Cost (000's)	$ (312,189)	$ (320,168)	$ (327,754)	$ (326,936)	$ (339,022)	$ (358,101)	$ (375,820)	$ (391,590)	$ (410,915)	$ (5,856,847)
Total Transport Fix Cost (000's)	$ (79,167)	$ (85,489)	$ (92,623)	$ (100,459)	$ (109,066)	$ (118,523)	$ (128,915)	$ (140,722)	$ (153,754)	$ (1,592,348)
Total Transport Var Cost (000's)	$ (676)	$ (674)	$ (697)	$ (731)	$ (736)	$ (736)	$ (768)	$ (756)	$ (760)	$ (14,007)
Total Supply Fixed Costs by Supply (000's)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Supply Variable Costs by Supply (000's)	$ (231,771)	$ (233,424)	$ (233,856)	$ (225,145)	$ (228,618)	$ (238,227)	$ (245,506)	$ (249,466)	$ (255,739)	$ (4,239,144)
Total Storage Fix Cost (000's)	$ (83)	$ (91)	$ (100)	$ (110)	$ (121)	$ (133)	$ (147)	$ (162)	$ (179)	$ (1,984)
Total Storage Var Cost (000's)	$ (163)	$ (162)	$ (149)	$ (162)	$ (152)	$ (152)	$ (154)	$ (154)	$ (153)	$ (2,787)
DSM Implementation Cost (000's)	$ (329)	$ (329)	$ (329)	$ (329)	$ (330)	$ (330)	$ (330)	$ (330)	$ (330)	$ (6,576)
Coldest in 20 Demand with Existing Resources										
Total Served w/o Enduser (MDth)	38,045	38,574	39,143	39,759	40,285	40,888	41,441	42,092	42,651	757,347
Total System Cost (000's)	$ (455,141)	$ (471,250)	$ (486,598)	$ (478,182)	$ (491,727)	$ (525,036)	$ (550,119)	$ (577,070)	$ (608,670)	$ (7,997,147)
Total Transport Fix Cost (000's)	$ (81,024)	$ (87,383)	$ (94,555)	$ (102,430)	$ (111,077)	$ (120,574)	$ (131,006)	$ (142,855)	$ (155,932)	$ (1,628,745)
Total Transport Var Cost (000's)	$ (771)	$ (777)	$ (781)	$ (772)	$ (780)	$ (776)	$ (787)	$ (786)	$ (788)	$ (14,676)
Total Supply Fixed Costs by Supply (000's)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Supply Variable Costs by Supply (000's)	$ (372,673)	$ (382,405)	$ (390,582)	$ (374,280)	$ (379,161)	$ (402,962)	$ (417,580)	$ (432,663)	$ (451,160)	$ (6,340,933)
Total Storage Fix Cost (000's)	$ (83)	$ (91)	$ (100)	$ (110)	$ (121)	$ (133)	$ (147)	$ (162)	$ (179)	$ (1,984)
Total Storage Var Cost (000's)	$ (260)	$ (263)	$ (250)	$ (260)	$ (258)	$ (261)	$ (269)	$ (274)	$ (281)	$ (4,230)
DSM Implementation Cost (000's)	$ (330)	$ (330)	$ (330)	$ (330)	$ (330)	$ (330)	$ (330)	$ (330)	$ (330)	$ (6,579)

Appendix 7.5 - Served Demand And Costs by Portfolio by Gas Year

Portfolio	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029	Total
High Growth & Low Price Demand with Existing Resources										
Total Served w/o Enduser (MDth)	44,114	45,025	45,940	46,887	47,720	48,633	49,460	50,402	51,212	857,587
Total System Cost (000's)	$ (410,141)	$ (423,014)	$ (443,146)	$ (468,605)	$ (492,550)	$ (517,678)	$ (544,457)	$ (573,948)	$ (572,727)	$ (7,691,204)
Total Transport Fix Cost (000's)	$ (81,024)	$ (87,383)	$ (94,555)	$ (102,430)	$ (111,077)	$ (120,574)	$ (131,006)	$ (142,855)	$ (155,932)	$ (1,628,745)
Total Transport Var Cost (000's)	$ (809)	$ (631)	$ (629)	$ (639)	$ (641)	$ (655)	$ (658)	$ (668)	$ (567)	$ (14,168)
Total Supply Fixed Costs by Supply (000's)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Supply Variable Costs by Supply (000's)	$ (327,720)	$ (334,378)	$ (347,329)	$ (364,888)	$ (380,169)	$ (395,771)	$ (412,090)	$ (429,702)	$ (415,526)	$ (6,036,350)
Total Storage Fix Cost (000's)	$ (83)	$ (91)	$ (100)	$ (110)	$ (121)	$ (133)	$ (147)	$ (162)	$ (179)	$ (1,984)
Total Storage Var Cost (000's)	$ (174)	$ (200)	$ (203)	$ (208)	$ (213)	$ (215)	$ (226)	$ (231)	$ (192)	$ (3,371)
DSM Implementation Cost (000's)	$ (330)	$ (330)	$ (330)	$ (330)	$ (330)	$ (330)	$ (330)	$ (330)	$ (330)	$ (6,586)
High Growth & Low Price Demand with Existing Resource plus Expected Available										
Total Served w/o Enduser (MDth)	44,248	45,259	46,318	47,430	48,435	49,529	50,559	51,696	52,726	864,144
Total System Cost (000's)	$ (579,111)	$ (609,025)	$ (648,913)	$ (696,324)	$ (744,437)	$ (796,100)	$ (852,189)	$ (916,538)	$ (941,575)	$ (10,704,833)
Total Transport Fix Cost (000's)	$ (250,049)	$ (272,925)	$ (298,805)	$ (327,276)	$ (358,600)	$ (393,063)	$ (430,983)	$ (474,143)	$ (521,802)	$ (4,610,328)
Total Transport Var Cost (000's)	$ (780)	$ (665)	$ (675)	$ (696)	$ (717)	$ (751)	$ (778)	$ (810)	$ (690)	$ (14,882)
Total Supply Fixed Costs by Supply (000's)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Supply Variable Costs by Supply (000's)	$ (327,674)	$ (334,816)	$ (348,800)	$ (367,703)	$ (384,456)	$ (401,605)	$ (419,726)	$ (439,332)	$ (415,133)	$ (6,062,864)
Total Storage Fix Cost (000's)	$ (83)	$ (91)	$ (100)	$ (110)	$ (121)	$ (133)	$ (147)	$ (162)	$ (179)	$ (1,984)
Total Storage Var Cost (000's)	$ (197)	$ (199)	$ (203)	$ (209)	$ (213)	$ (218)	$ (226)	$ (232)	$ (168)	$ (3,388)
DSM Implementation Cost (000's)	$ (329)	$ (329)	$ (329)	$ (330)	$ (330)	$ (330)	$ (330)	$ (330)	$ (330)	
Low Growth & High Prices with Restricted Capacity										
Total Served w/o Enduser (MDth)	31,888	31,965	32,074	32,223	32,300	32,443	32,553	32,755	32,890	650,063
Total System Cost (000's)	$ (579,523)	$ (589,842)	$ (606,222)	$ (626,952)	$ (646,322)	$ (675,050)	$ (707,914)	$ (744,590)	$ (782,532)	$ (10,814,967)
Total Transport Fix Cost (000's)	$ (81,024)	$ (87,383)	$ (94,555)	$ (102,430)	$ (111,077)	$ (120,574)	$ (131,006)	$ (142,855)	$ (155,932)	$ (1,628,745)
Total Transport Var Cost (000's)	$ (558)	$ (421)	$ (418)	$ (414)	$ (415)	$ (413)	$ (412)	$ (412)	$ (397)	$ (10,887)
Total Supply Fixed Costs by Supply (000's)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Supply Variable Costs by Supply (000's)	$ (497,088)	$ (501,156)	$ (510,350)	$ (523,188)	$ (533,891)	$ (553,094)	$ (575,493)	$ (600,285)	$ (625,117)	$ (9,158,973)
Total Storage Fix Cost (000's)	$ (83)	$ (91)	$ (100)	$ (110)	$ (121)	$ (133)	$ (147)	$ (162)	$ (179)	$ (1,984)
Total Storage Var Cost (000's)	$ (441)	$ (461)	$ (468)	$ (480)	$ (489)	$ (506)	$ (526)	$ (545)	$ (576)	$ (7,785)
DSM Implementation Cost (000's)	$ (330)	$ (330)	$ (330)	$ (330)	$ (330)	$ (330)	$ (330)	$ (330)	$ (330)	$ (6,593)
Green Future with Exisiting Resources										
Total Served w/o Enduser (MDth)	33,696	34,085	34,504	34,929	35,343	35,755	36,114	36,549	36,913	688,561
Total System Cost (000's)	$ (509,205)	$ (527,692)	$ (555,101)	$ (576,973)	$ (604,689)	$ (635,671)	$ (670,459)	$ (705,752)	$ (744,051)	$ (9,277,241)
Total Transport Fix Cost (000's)	$ (81,024)	$ (87,383)	$ (94,555)	$ (102,430)	$ (111,077)	$ (120,574)	$ (131,006)	$ (142,855)	$ (155,932)	$ (1,628,745)
Total Transport Var Cost (000's)	$ (744)	$ (747)	$ (753)	$ (739)	$ (741)	$ (741)	$ (740)	$ (744)	$ (753)	$ (14,306)
Total Supply Fixed Costs by Supply (000's)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Supply Variable Costs by Supply (000's)	$ (426,692)	$ (438,793)	$ (459,024)	$ (472,989)	$ (492,037)	$ (513,496)	$ (537,821)	$ (561,223)	$ (586,416)	$ (7,619,876)
Total Storage Fix Cost (000's)	$ (83)	$ (91)	$ (100)	$ (110)	$ (121)	$ (133)	$ (147)	$ (162)	$ (179)	$ (1,984)
Total Storage Var Cost (000's)	$ (331)	$ (349)	$ (339)	$ (375)	$ (383)	$ (397)	$ (415)	$ (438)	$ (441)	$ (5,746)
DSM Implementation Cost (000's)	$ (330)	$ (330)	$ (330)	$ (330)	$ (330)	$ (330)	$ (330)	$ (330)	$ (330)	$ (6,585)
Supply Constrained with Existing Resources										
Total Served w/o Enduser (MDth)	33,636	33,972	34,357	34,801	35,206	35,630	35,955	36,370	36,696	679,368
Total System Cost (000's)	$ (631,509)	$ (659,118)	$ (688,262)	$ (714,342)	$ (745,031)	$ (787,581)	$ (832,734)	$ (882,437)	$ (934,412)	$ (11,782,862)
Total Transport Fix Cost (000's)	$ (81,024)	$ (87,383)	$ (94,555)	$ (102,430)	$ (111,077)	$ (120,574)	$ (131,006)	$ (142,855)	$ (155,932)	$ (1,628,745)
Total Transport Var Cost (000's)	$ (694)	$ (694)	$ (706)	$ (681)	$ (686)	$ (690)	$ (705)	$ (707)	$ (692)	$ (13,311)
Total Supply Fixed Costs by Supply (000's)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Supply Variable Costs by Supply (000's)	$ (548,921)	$ (570,148)	$ (592,095)	$ (610,263)	$ (632,276)	$ (665,297)	$ (699,974)	$ (737,791)	$ (776,666)	$ (10,124,043)
Total Storage Fix Cost (000's)	$ (83)	$ (91)	$ (100)	$ (110)	$ (121)	$ (133)	$ (147)	$ (162)	$ (179)	$ (1,984)
Total Storage Var Cost (000's)	$ (457)	$ (472)	$ (476)	$ (528)	$ (542)	$ (557)	$ (572)	$ (591)	$ (613)	$ (8,186)
DSM Implementation Cost (000's)	$ (330)	$ (330)	$ (330)	$ (330)	$ (330)	$ (330)	$ (330)	$ (330)	$ (330)	$ (6,593)

APPENDIX 8.1

DISTRIBUTION SYSTEM MODELING

APPENDIX 8.1 – DISTRIBUTION SYSTEM MODELING

OVERVIEW

The primary goal of distribution system planning is to design for present needs and to plan for future expansion to serve demand growth. This allows Avista to satisfy current demand-serving requirements while taking steps toward meeting future needs. Distribution system planning identifies potential problems and areas of the distribution system that require reinforcement. By knowing when and where pressure problems may occur, the necessary reinforcements can be incorporated into normal maintenance. Thus, more costly reactive and emergency solutions can be avoided.

COMPUTER MODELING

When designing new main extensions, computer modeling can help determine the optimum size facilities for present and future needs. Undersized facilities are costly to replace, and oversized facilities incur unnecessary expenses to Avista and its customers.

THEORY AND APPLICATION OF STUDY

Natural gas network load studies have evolved in the last decade to become a highly technical and useful means of analyzing the operation of a distribution system. Using a pipeline fluid flow formula, a specified parameter of each pipe element can be simultaneously solved. A variety of pipeline equations exist, each tailored to a specific flow behavior. Through years of research, these equations have been refined to the point where solutions obtained closely represent actual system behavior.

Avista conducts network load studies using Advantica's SynerGEE® 4.3.0 software. This computer-based modeling tool runs on a Windows operating system and allows users to analyze and interpret solutions graphically.

CREATING A MODEL

To properly study the distribution system, all natural gas main information is entered (length, pipe roughness and ID) into the model. "Main" refers to all pipelines supplying services.

Nodes (points where natural gas enters or leaves the system) are placed at all pipe intersections, beginnings and ends of mains, changes in pipe diameter/material and to identify all large customers. A model element connects two nodes together. Therefore, a "to node" and a "from node" will represent an element between those two nodes. Almost all of the elements in a model are pipes.

Regulators are treated like adjustable valves in which the downstream pressure is set to a known value. Although specific regulator types can be entered for realistic behavior, the expected flow passing through the actual regulator is determined and the modeled regulator is forced to accommodate such flows.

FLUID MECHANICS OF THE MODEL

Pipe flow equations are used to determine the relationships between flow, pressure drop, diameter and pipe length. For all models, the Fundamental Flow equation (FM) is used due to its demonstrated reliability.

Efficiency factors are used to account for the equivalent resistance of valves, fittings and angle changes within the distribution system. Starting with a 95 percent factor, the efficiency can be changed to fine tune the model to match field results.

Pipe roughness along with flow conditions creates a friction factor for all pipes within a system. Thus, each pipe may have a unique friction factor, minimizing computational errors associated with generalized friction values.

LOAD DATA

All studies are considered steady state; all natural gas entering the distribution system must equal the natural gas exiting the distribution system at any given time.

Customer loads are obtained from Avista's customer billing system and converted to an algebraic format so loads can be generated for various conditions.

In the event of a peak day or an extremely cold weather condition, it is assumed that all curtailable loads are interrupted. Therefore, the models will be conducted with only core loads.

DETERMINING NATURAL GAS CUSTOMERS' MAXIMUM HOURLY USAGE

Determining a Base Load

Base loads are not temperature dependent; they remain relatively constant regardless of temperature. A reasonable base load can be calculated from customer billing information. The billing month, which has the lowest amount of heating degree days is usually August. Usage during this month will reflect nearly all natural gas loads exclusive of space heating.

By determining the amount of days in the billing period and applying a peaking factor, the peak hourly base load of each customer can be estimated as shown in Table 1:

Table 1 - Determining Base Load

$$\text{Customer Usage Summer Billing Period} \times \frac{1}{\text{Days in Billing Period}} \times 0.0625^{*} = \text{Peak Hourly Base Load}$$

* The average residential customer's peak usage was found to be 6.25 percent of the total daily load. This peaking factor was estimated by studying the ratio of the peak hourly flow and the total daily flow at the pipeline gate stations in past years. The peaking factor is periodically discussed with other utilities and has been consistent with other utilities of similar size.

Determining Heat Load

A heat load will be proportional to heating degree-days (HDDs); at 0 HDD, the load will be zero. A heat load can be reasonably calculated from customer billing information. The billing month with the greatest consumption is usually January. This month reflects maximum space heating as well as non-space heating loads.

Customers' usage for January (winter) billing, minus usage for August (summer) billing, leaves a reasonable estimate for heat load. This load can be divided by the amount of HDDs that occurred in January, leaving usage per HDD. Customer needs can be calculated by applying the peaking factor, resulting in a peak hourly heat load per HDD. This is shown in Table 2:

Table 2 - Determining Heat Load

$$\left\{\begin{array}{c}\text{Customer Usage}\\ \text{Winter Billing}\\ \text{Period}\end{array} - \begin{array}{c}\text{Customer Usage}\\ \text{Summer Billing}\\ \text{Period}\end{array}\right\} \times \frac{1}{\begin{array}{c}\text{Winter Billing}\\ \text{Period Degree}\\ \text{Days}\end{array}} \times \text{Peak HDDs} \times 0.0625^{*} = \begin{array}{c}\text{Peak Hourly}\\ \text{Heat Load}\end{array}$$

Determining Design Peak Hourly Load

The design peak hourly load for a customer is estimated by adding the hourly base load and the hourly heat load for a design temperature. This estimate reflects highest system hourly demands, as shown in Table 3:

Table 3 - Determining Peak Hourly Load

Peak Hourly Base Load	+	Peak Hourly Heat Load	=	Peak Hourly Load

This method differs from the approach that we use for IRP peak day load planning. The primary reason for this difference is due to the importance of responding to hourly peaking in the distribution system, while IRP resource planning focuses on peak day requirements to the city gate.

APPLYING LOADS

Having estimated the peak loads for all customers in a particular service area, the model can be loaded. The first step is to assign each load to the respective node or element.

GENERATING LOADS

Temperature-based and non-temperature-based loads are established for each node or element, thus loads can be varied based on any temperature (HDD). Such a tool is necessary to evaluate the difference in flow and pressure due to different weather conditions.

GEOGRAPHIC INFORMATION SYSTEM (GIS)

We have recently converted our natural gas facility maps to GIS. While the GIS can provide a variety of map products, its power lies in its analytical capability. A GIS consists of three components: spatial operations, data association and map representation.

A GIS allows analysts to conduct spatial operations (relating a feature or facility to another geographically). A spatial operation is possible if a facility displayed on a map maintains a relationship to other facilities. Spatial relationships allow analysts to perform a multitude of queries, including:

- identify electric customers adjacent to natural gas mains who are not currently using natural gas;
- display the ratio of customers to length of pipe in Emergency Operating Procedure zones (geographical areas defined by the number of customers and their safety in the event of an emergency); and
- classify high-pressure pipeline proximity criteria.

The second component of the GIS is data association. This allows analysts to model relationships between facilities displayed on a map to tabular information in a database. Databases store facility information such as pipe size, pipe material, pressure rating, or related information (e.g., customer databases, equipment databases and work management systems). Data association allows interactive queries within a map-like environment.

Finally, the GIS provides a means to create maps of existing facilities in different scales, projections and displays. In addition, the results of a comparative or spatial analysis can be presented pictorially. This allows users to present abstract analyses in a more intuitive context.

BUILDING SynerGEE® MODELS FROM A GIS

The GIS can provide additional benefits through the ease of creation and maintenance of load studies. Avista can create load studies from the GIS based on tabular data (attributes) installed during the mapping process.

MAINTENANCE USING A GIS

The GIS helps maintain the existing distribution facility by allowing a design to be initiated on a GIS. Currently, design jobs for the company's natural gas system are managed through Avista's Facility Management (AFM) tool. This system is being integrated with GIS, allowing jobs to be designed directly within a GIS. Once completed, the as-built information is submitted to GIS and the facility is immediately updated. This eliminates the need to convert physical maps to a GIS at a later date. Because the facility is updated on GIS, load studies can remain current by refreshing the analysis.

DEVELOPING A PRESENT CASE LOAD STUDY

In order for any model to have accuracy, a present case model has to be developed that reflects what the system was doing when downstream pressures and flows are known. To establish the present case, pressure charts located throughout the distribution system are used.

Pressure charts plot pressure (some include temperature) versus time over several days. Various locations recording simultaneously are used to validate the model. Customer loads on SynerGEE® are generated to correspond with actual temperatures recorded on the pressure charts. An accurate model's downstream pressures will match the corresponding location's field pressure chart. Efficiency factors are fine-tuned to further refine the model's pressures.

Since telemetry at the gate stations record hourly flow, temperature and pressure, these values are used to validate the model. All loads are representative of the average daily temperature and are defined as hourly flows. If the load generating method is truly accurate, all natural gas entering the actual system (physical) equals total natural gas demand solved by the simulated system (model).

DEVELOPING A PEAK CASE LOAD STUDY

Using the calculated peak loads, a model can be analyzed to identify the behavior during a peak day. The efficiency factors established in the present case are used throughout subsequent models.

ANALYZING RESULTS

After a model has been balanced, several features within the SynerGEE® model are used to translate results. Color plots are generated to depict flow direction, pressure, pipe diameter and gradient with specific break points. Reinforcements can be indentified by visual inspection. When user edits are completed and the model is re-balanced, pressure changes can be visually displayed, helping identify optimum reinforcements.

An optimum reinforcement will have the largest pressure increase per unit length. Reinforcements can also be deferred and occasionally eliminated through load mitigation of DSM efforts.

PLANNING CRITERIA

In most instances, models resulting in node pressures below 15 psig indicate a likelihood of distribution low pressure and therefore necessitate reinforcements. For most Avista distribution systems, a minimum of 15 psig will ensure deliverability as natural gas exits the distribution mains and travels through service pipelines to a customer's meter. Some Avista distribution areas operate at lower pressures and are assigned a minimum pressure of 5 psig for model results. Given a lower operating pressure, service pipelines in such areas are sized accordingly to maintain reliability.

DETERMINING MAXIMUM CAPACITY FOR A SYSTEM

Using a peak day model, loads can be prorated at intervals until area pressures drop to 15 psig. At that point, the total amount of natural gas entering the system equals the maximum capacity before

new construction is necessary. The difference between natural gas entering the system in this scenario and a peak day model is the maximum additional capacity that can be added to the system.

Since the approximate natural gas usage for the average customer is known, it can be determined how many new customers can be added to the distribution system before necessitating system reinforcements. The above models and procedures are utilized with new construction proposals or pipe reinforcements to determine a potential increase in facilities.

FIVE-YEAR FORECASTING

The intent of our load study forecasting is to predict the system's behavior and reinforcements necessary within the next five years. Various Avista personnel provide information to determine where and why certain areas may experience growth.

By combining information from Avista's demand forecast, IRP planning efforts, regional growth plans and area developments, proposals for pipeline reinforcements and expansions can be evaluated with SynerGEE®.